Gravina Access Project

Preliminary Quantities and Cost Estimate Technical Memorandum



Agreement 36893013 DOT&PF Project 67698 Federal Project ACHP-0922(5)

Prepared for:



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Executive Summary

Current Gravina Access Project costs are presented for access to the airport terminal, and for highway access to developable lands north of the airport. The cost to access developable land varies by alternative, largely depending on where each alternative makes landfall on Gravina, and the resultant distance to developable land north of the airport.

The column in the table below titled *Future Airport Development* identifies the cost associated with providing the airport with sufficient parking to meet the projected year 2025 parking demand. Although initial parking requirements could most likely be accommodated at the airport without construction of a parking garage under the current airport configuration, additional parking will need to be added to the airport at some time in the future.

		Airport Access	Developable Land Access	Future Airport Development	То	tals
	Alternative	Estimated Project Cost (\$ million)	Estimated Project Cost (\$ million)	Estimated Project Cost (\$ million)	Estimated Total Project Cost (\$ million)	Estimated Total Life Cycle Cost (\$ million)
	C3(a)	175	13	11	199	158
200' Bridges	F1	210	9	11	230	191
20 Bric	F3 ¹	187	9	11	207	168
	C4	171	13	11	195	158
120' Bridges	D1	107	15	11	133	106
12 Bric	C3(b)	143	14	11	168	133
	G2	49	0	11	60	90
Ferries	G3	47	10	11	68	98
	G4	32	15	11	58	88

¹ Assumes channel modification would be required

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1.0 Introduction

The Gravina Access Project was commissioned in 1999 by DOT&PF to study ways to improve access from Ketchikan on Revillagigedo Island to Gravina Island. Gravina Island is home to Ketchikan International Airport, as well as much of the developable land available within the Ketchikan area. This technical memorandum has developed estimated costs for comparison purposes for the reasonable alternatives. Cost estimates include not only the construction cost, but also program development and life cycle costs, including operation and maintenance costs.

2.0 Previous Cost Estimates

Earlier in this project, in order to compare the initial alternatives, costs were developed in the late winter and early spring of 2000 for all alternatives. This was done to ensure that one alternative or mode was not unfairly compared with other alternatives or modes. The basis of cost comparison for the original list of alternatives was as follows:

- Major items were estimated through quantity calculations, such as earthwork, pavement, number of stream crossings, bridge deck area, foundation costs, ferry acquisition and terminal costs, and tunnel cost per linear meter.
- All other items were estimated based on a percentage of the major items.
- Unit prices applied were based on recent bid tabs or recent engineering estimates for similar projects, specifically, the Boston Harbor tunnel, the Benicia Martinez Bridge, the new airport ferry being built in Ketchikan, and the recently constructed 3rd Street project in Ketchikan.

In addition to construction costs, Program Development costs were calculated for each alternative based on its total estimated construction cost. Program Development costs were initially defined as:

•	Miscellaneous Contingency	35%
•	Environmental Mitigation	10%
•	Engineering/Administration	8%
•	Construction Management	15%

Alignment specific right of way costs were also added to the total to determine the Program Development costs and the Total Estimated Project Cost for each option.

3.0 Initial Alternatives Cost Comparisons

In the earlier potion of the Gravina Access Project 18 alternatives were investigated, establishing engineering criteria, crossing concepts, summary of potential environmental impacts and costs, all for purposes of comparison of the alternatives. Engineering criteria established for the cost comparison included:

- Roadway cross-section included two travel lanes of 3.6m (11.8 ft.) and two shoulders of 2.5 m (8.2 ft) in width. Also included was a bike path of 2.4m (7.9 ft.) in width.
- Design speed was 90 KPH (55.9 MPH).
- Maximum grade was 6%.
- Cost estimates included access from Tongass Avenue to the airport terminal only.

Early estimates for Construction and Program Development Costs for the original list of alternatives were established as presented below:

Alternative	Total Estimated Project Cost (\$ million)
A1	268.8
B1	384.9
C1	242.0
C2	205.3
C3	145.8
C4	152.5
D1	89.2
D2	248.7
E1	262.6
E2	350.2
F1	205.8
F1 (cable stayed)	210.9
F2	553.2
F3	181.6
G1	71.5
G2	66.2
G3	47.1
G4	42.7

Note: These costs were developed in January 2000.

4.0 Costs for the Reasonable Alternatives

Initial screening of the original 18 alternatives resulted in the identification of nine alternatives as reasonable for further study, in this phase of the project. These nine reasonable alternatives were then refined to more accurately establish environmental impacts, and to review project costs for comparison purposes. During that process, the following changes were made:

- The roadway width was reduced to remove the separate bike path, which narrowed the overall highway section by 2.6 meters. This resulted in a reduced lane mile cost for the roadway estimate.
- The roadway profile was adjusted to reflect a revised design speed for the alignment of 70 KPH (43.5 MPH). Maximum grade changed from 6% to 8% on the roadway and on approaches to the bridge alternatives.
- The unit costs for the bridge were adjusted to reflect the actual bids received on the Benicia Martinez Bridge, a concrete box girder structure recently under construction. In addition, costs for major civil construction on the west coast were reviewed and adjustments to the bridge components made to recognize current market conditions. These adjustments resulted in increased bridge costs.
- Contingencies were adjusted to reflect the estimated risk by each major item. For example, the bridge foundation cannot be accurately estimated until site-specific geotechnical information is available. For that reason, that specific item has been assigned a 25% contingency.
- Miscellaneous Roadway Items: An analysis was conducted of DOT&PF bid tab summaries for 1995 to 1999, to establish relationships between the overall cost of roadway items and the cost of various miscellaneous items. Based on this analysis, three categories for miscellaneous roadway items were added to the cost estimate:

Removal Items
Other Excavation & Emb.
Miscellaneous Items
at 6% of roadway costs
at 3% of roadway costs
at 25% of roadway costs

- Because of the item-specific contingency, and the miscellaneous roadway items
 described above, the overall project contingency has been reduced to 15%. This
 is lower than normal at this stage, but appropriate because of the use of item
 specific contingencies.
- The ferry acquisition cost has been reviewed and adjusted based on additional information available from the new airport ferry construction.
- The cost of an access road to developable lands north of the airport on Gravina Island was estimated for all alternatives. These developable land access costs are identified in the cost table within the Executive Summary. Also included is the cost of a parking garage for ultimate airport development. Because these portions of the project are not strictly necessary for access to the airport, they are shown as separate costs within the Executive Summary cost table.

This detailed cost review resulted in significant cost revisions to most of the alternatives included in the reasonable alternatives evaluation. The resultant costs establish a basis for analysis of economic impacts on the community. It is appropriate to utilize these costs for comparative evaluations of each reasonable alternative, and to help determine the recommended alternative. Significantly, these costs are not accurate enough to utilize for budgeting purposes. In order to develop costs suitable for budgeting, additional information, including geotechnical, bathymetric and topographical data must be gathered and evaluated to establish a higher degree of design and quantity certainty.

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The following table is a summary of the comparative costs for the Gravina Access Project's nine reasonable alternatives. A detailed breakdown of construction quantities (based on preliminary engineering studies) and itemized cost estimates (broken into the airport access and development access categories) can be found in the attachment. All of these costs have been totaled for each reasonable alternative, for this summary table. The attachment includes a detailed breakdown of the operation and maintenance costs for each reasonable alternative. It also indicates the assumptions made about the types of periodic major maintenance or rehabilitation needed during the life of the project, and costs associated with that work for each of the nine alternatives.

Alternative	Total Estimated Project Cost (\$ million)
C3(a)-200	199
C3(b)-120	168
C4-200	195
D1-120	133
F1-200	230
F3-200	207
G2	60
G3	68
G4	58

Note: Detailed breakdown is included in Attachment.

In response to concerns expressed by cruise ship pilots with respect to the impacts of Alternative F3 on marine navigation, DOT&PF proposes widening a portion of the West Channel to improve its navigational characteristics and mitigate adverse impacts to cruise ships transiting the West Channel. With such channel modification, the total estimated project cost of Alternative F3 would be \$207 million.

The nine alternatives can be grouped into three basic groups; high bridge, (C3(a), C4, F1, F3) low bridge, (D1, C3(b)) and ferries (G2, G3, G4). The magnitude of difference between total estimated costs is useful and appropriate to consider when comparing these alternatives. It should be noted again that additional fieldwork and preliminary design must be completed, in order to develop an opinion of cost that is of adequate accuracy for budgeting purposes.

5.0 Life Cycle Cost Comparison

Life cycle costs were estimated to allow additional economic comparisons between the nine alternatives. Life cycle cost analyses are often used to evaluate the total cost of a project over its useful life, taking into consideration program development costs as well as annual operation and maintenance costs, major rehabilitation required during the life

of the project, and the value of money. Development of life cycle costs for this project adhered to guidelines provided in Federal Highway Administration – Office of Management and Budget (OMB) Circular No. A-94, October 29, 1992 and subsequent appendices. The methodology used is outlined in the following paragraphs. A summary of the assumptions used in the analysis included:

- All pavements would have to be overlaid at 20 year intervals
- Mechanical/electrical equipment of ferries would have to be replaced every 25 years
- Ferry terminal maintenance would be required every 10 years
- The useful life of a bridge is 75 years
- The useful life of the parking structure is 75 years
- The useful life of a ferry is 50 years
- Long term inflation rate is 2%
- Long term interest rate is 6.3%

Annual costs of operation and maintenance were based on evaluation of comparable systems, such as the existing ferry system and maintenance of large concrete bridges. Based on the above assumptions, the following comparisons include life cycle costs of the alternatives.

5.1 Definition of Life Cycle Cost

Life Cycle Cost is defined as the overall estimated cost of a single project alternative over the life of the project or a defined period. All of the income and expenses associated with the project that occur during its life are used to calculate the life cycle cost. Comparing their life cycle costs is a common way to evaluate different alternatives. Life Cycle Costs will be compared here using Net Present Value (NPV). For the Gravina Access Project, present worth is used to compare the life cycle costs of different alternatives.

5.2 Cash Flow

A cash flow diagram is often used to show how money is spent and earned. A simple cash flow diagram is shown in Figure 1. In this figure, each vertical bar represents the net expense or income for a single year. A vertical bar below the \$0-line indicates that money is spent on the project and a bar above the \$0-line indicates that money is earned or gained. The cash flow includes initial costs, annual operating and maintenance (O&M) costs, periodic maintenance costs, and salvage values. "Constant dollars" are used in this diagram, which means that the income and expenses do not include the effects of inflation. Also, annual operating and maintenance costs actually occur throughout the year, but in this cash flow diagram they are shown as a lump sum at the end of the year. A cash flow diagram similar to this was used for Gravina Access Project alternatives. Using a car as an example, the following shows the components of a cash flow diagram.

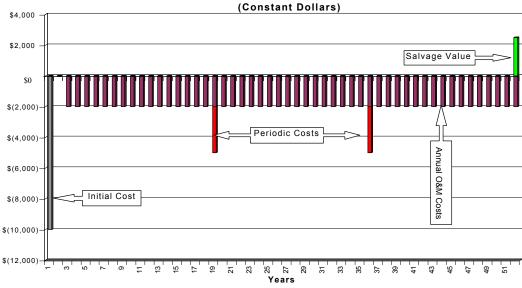


Figure 1 - Cash Flow Diagram for Life Cycle Costs

Car Example 1: The cash flow diagram for an automobile paid in full on the day of purchase includes the following costs:

- The *initial cost* is the price that is paid for the vehicle and any taxes and fees paid at the time of purchase.
- Annual operating and maintenance costs include the annual cost of fuel, oil, fluids, insurance and other costs that occur every year.
- Periodic maintenance costs include new tires, new brakes, new batteries and other maintenance costs that occur throughout the life of the vehicle to keep the vehicle in service.
- The *salvage value* is the price that the vehicle is sold for at the end of its useful life.

Time Value of Money

When dealing with money or finances for a project over a long period, the time value of money must be considered. The value of money changes over time due to inflation and interest rates.

Inflation decreases the value of money over time by increasing the cost of goods and services. When we say, "A dollar today isn't worth what it used to be," we are usually referring to the loss in a dollar's value due to inflation. If we have \$100 dollars to buy an item today, the same item 50 years ago would have cost \$37, assuming a 2% inflation rate. Similarly, an item that costs \$100 in the Year 2000 will cost about \$270 in the Year 2050 at a 2% inflation rate.

Interest accrued over time increases the value of money. Another way to think about this is that you can "make money" with the money you have in hand today. For example, suppose you put \$10 into a bank account that pays 6.3% annual interest. If you leave the

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account alone and let that original \$10 and the interest accumulate, it will be worth \$212 in 50 years.

Because the value of money changes over time, it is very important to specify the year that the dollars are stated in. In the previous example, the \$100 price for the item is stated in Year 2000 dollars. When inflation is used to calculate the future cost, the \$270 price is in Year 2050 dollars.

5.3 Present Worth

Inflation and interest rates are combined to determine the *present worth* of an item. First, we assume that the price of the item purchased today is known. Second, an inflation rate is used to determine the future cost. The interest rate is used to determine how much money would have to be set aside today to pay for the item in the future. Together these factors determine the present worth of the item. Figure 2 shows the simplified cash flow diagram from Figure 1, but with the effects of inflation.

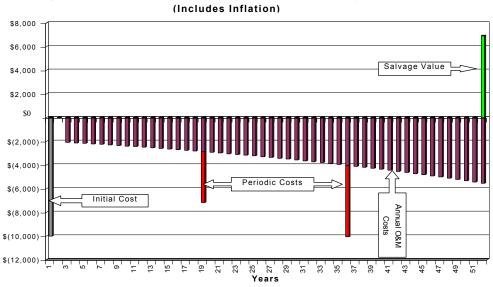


Figure 2 - Cash Flow Diagram for Life Cycle Costs

The equation for calculating the future cost for an item is:

Future Cost = Present Cost x
$$(1 + inflation rate)^t$$
 where t = number of years.

The present worth of a future transaction is:

Present Worth = Future Cost
$$x (1 + interest rate)^{-t}$$
Discount Factor

Car Example 2: You decide that you want to purchase a new vehicle in 5 years. The 2000 model is currently selling for \$20,000 (in Year 2000 dollars). With 2% inflation you can assume that when you buy the new 2005 model it is going to cost \$22,082 (in Year 2005 dollars). Today, if you deposit \$16,269 (Year 2000 dollars) in an account that generates 6.3% interest and the account balance is allowed to accumulate, you would have enough money for the new vehicle in 5 years. \$16,269 (in Year 2000 dollars) is the present worth of the 2005 model.

The associated calculations are:

Future Cost =
$$$20,000 \times (1 + 0.02)^5 = $22,082$$

Present Worth = $$22,082 \times (1 + 0.063)^{-5} = $16,269$

5.4 Salvage Value

The salvage value is the value of an item at the end of the life span. The straight-line method of depreciation is the method that is used to determine the salvage value for this project. This method states the value of an item decreases in value at a constant rate until it reaches the end of its life span, at which point in time the value of the item is zero. Hence, when the item is halfway through the life span, the item is worth half of its original price. When the item is 75% through its life, its salvage value is 25% of its original price.

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Salvage Value = Cost of Item x (1 - n / Life of Item)
where n = the time at which the salvage value is calculated.
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Car Example 3: An item is purchased for \$1,000. It has a life span of 50 years and zero salvage value at the end of its life. If you sold the item in 20 years the salvage value of the item would be \$600.

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Calculations:
Salvage Value in 20 years = \$1,000 \times (1 - 20 / 50) = \$600
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In the example above, a salvage value is calculated for an item that is purchased and sold. There is also salvage value associated with periodic maintenance. An item is worth more if it is maintained. The value of the maintenance performed is greater immediately after it is maintained and the value diminishes as you get closer to the next required maintenance. The straight-line method of depreciation described above is also used to determine the salvage value of periodic maintenance.

Car Example 4: You own an old car in desperate need of a new engine. The cost of purchasing and installing a new engine is \$5,000. The engine must be replaced every 15 years. If the car is sold 5 years after the engine is replaced, the salvage value the new engine adds to the value of the car is \$3,333.

Calculations: Periodic Maintenance Cost = \$5,000Salvage Value in 5 years = $$5,000 \times (1 - 5/15) = $3,333$

6.0 Calculating Life Cycle Costs for Gravina Access Project

Life cycle costs for the Gravina Access Project alternatives were determined using the present worth value for the Life Cycle Cost analysis. Because construction was scheduled to start in the Year 2003, the life cycle costs for all alternatives were computed in Year 2003 dollars.

The calculations were performed using a cash flow diagram in constant 2003 dollars. For example, repaving of the bridges is planned to occur once every 10 years at a cost of \$13 per square meter (2003 dollars). This means that at Years 2026, 2046, 2066, etc., an expense of \$13 per square meter will be included as a project expense. Present worth is calculated using a nominal interest rate of 6.3% and an inflation rate of 2% for all alternatives. The table below shows life cycle costs corresponding to early cost estimates for the original list of 18 alternatives.

Alternative	Total Estimated Project Cost (\$ million)	Total Life Cycle Cost (\$ million)	Annual Average O&M Cost* (\$ million)
A1	268.8	261.1	0.18
B1	384.9	372.4	0.17
C1	242.0	235.0	0.15
C2	205.3	199.8	0.15
С3	145.8	142.7	0.16
C4	152.5	149.1	0.15
D1	89.2	87.8	0.12
D2	248.7	246.6	0.44
E1	262.6	311.1	3.03
E2	350.2	397.2	3.12
F1	205.8	201.2	0.21

¹ Federal Highway Administration – Office of management and Budget (OMB) Circular No. A-94, Appendix C. January 2000.

Alternative	Total Estimated Project Cost (\$ million)	Total Life Cycle Cost (\$ million)	Annual Average O&M Cost* (\$ million)
F1 (cable)	210.9	207.9	0.30
F2	553.2	594.6	3.26
F3	181.6	177.9	0.21
G1	71.5	155.8	4.99
G2	66.2	150.4	4.97
G3	47.1	131.9	4.95
G4	42.7	127.6	4.95

^{*}Includes annual O&M cost as well as annual contribution to fund periodic maintenance rehabilitation costs

The same evaluation period was used for all alternatives so that the comparison between alternatives is fair. The project period used for this evaluation is 20 years. Hence, for the Gravina Access Project, the 20-year life span starts at the beginning of Year 2006 and terminates at the end of 2025. The table below shows life cycle costs for the nine reasonable alternatives after they were screened from, and more fully developed, than the original 18 alternatives.

Alternative	Total Estimate Project Cost (\$ million)	Total Life Cycle Costs (\$ million)	Annual Average O&M Costs ¹ (\$ million)
C3(a)-200	199	158	0.15
C3(b)-120	168	133	0.16
C4-200	195	158	0.15
D1-120	133	106	0.13
F1-200	230	191	0.11
F3-200 ²	207	168	0.11
G2	60	90	4.98
G3	68	98	4.98
G4	58	88	4.97

Includes annual O&M cost as well as annual contribution to fund periodic maintenance rehabilitation costs

As is commonly done in life cycle cost studies, the salvage value at the end of the project life span for structures such as bridges and tunnels is established using a straight-line method of depreciation, based on the life of the structure.

Initial Cost of Construction: Construction is expected to begin in 2003 and to last for approximately three years. The initial cost of construction and project development was

² Assumes channel modification would be required

distributed over the construction period and occurs at the beginning of the year (2003 to 2005). Construction is expected to be complete at the end of 2005.

Annual Operating and Maintenance Costs: Annual costs are lumped at the end of the year beginning at the end of 2006 (beginning of 2007) and the final cost occurs at the end of 2025 (beginning of 2026).

Periodic Maintenance Costs: Periodic maintenance costs include repaving, mechanical/ electrical equipment replacement, and terminal maintenance. Each of these maintenance items occurs at its respective frequency **f**. The first cost occurs **f** years after the beginning of 2006. Salvage value of the periodic maintenance costs after the 20th year is determined using the straight-line method of depreciation.

Structure Options: The proposed bridges have an expected life of 100 years. Salvage value for bridges after the 20th year is determined using the straight-line method of depreciation.

Ferry Options: It was assumed that with proper maintenance, the useful life of the proposed ferry vessels is 50 years. It was assumed that the ferry vessel has zero salvage value at the end of its 50-year life. It was assumed that one of the existing ferry vessels will be replaced at the beginning of the project life in 2006 and that the other existing ferry vessel will be replaced at the 10th year of the project life. The salvage value of all the ferry vessels at the end of the 20-year project life was calculated using the straight-line method of depreciation.

6.1 Summary of Alternatives and their Cash Flow Components (in constant Year 2003 dollars)

Bridge alternatives

- > Initial Cost of Construction
- > Annual Operating and Maintenance Costs
- > Periodic Maintenance Costs:
 - Repaying
- > Salvage Value
 - Value of periodic maintenance costs after the 20th year.
 - Value of bridges after the 20th year

Moveable Bridge alternatives

- > Initial Cost of Construction
- > Annual Operating and Maintenance Costs
- > Periodic Maintenance Costs:
 - Repaying
 - Electrical equipment replacement on moveable bridges
- > Salvage Value
 - Value of periodic maintenance costs after the 20th year.

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• Value of bridges after the 20th year

Ferry alternatives

- ➤ Initial Cost of Construction
 - Construction
 - Ferry system acquisition
- > Annual Operating and Maintenance Costs
- > Periodic Maintenance Costs:
 - Repaving
 - Marine terminal fender/dolphin replacement cost
 - Ferry main propulsion and generator replacement costs
 - Existing ferry replacement at the 10th year
 - Salvage value
 - Value of periodic maintenance costs after the 20th year.
 - Value of vessel after the 20th year.

ATTACHMENT Cost Estimates

GRAVINA ACCESS PROJECT

Cost Summary 8/29/2002

Airport Acce	Airport Access			
Alignment	Construction Cost	Program Development Cost	Construction & Program Development Total Cost	
	(\$ Million)	(\$ Million)	(\$ Million)	
C3(a) - 200	128	47	175	
C3(b) - 120	105	38	143	
C4 - 200	125	46	171	
D1-120	79	28	107	
F1 - 200	154	56	210	
F3 - 200	138	49	187	
G2	35	14	49	
G3	31	16	47	
G4	23	9	32	

Developable	Developable Land Access				
Alignment	Construction	Program	Construction		
	Cost	Development	& Program		
		Cost	Development		
			Total Cost		
	(\$ Million)	(\$ Million)	(\$ Million)		
C3(a) - 200	10	3	13		
C3(b) - 120	10	4	14		
C4 - 200	10	3	13		
D1-120	11	4	15		
F1 - 200	6	3	9		
F3 - 200	7	2	9		
G2	0	0	0		
G3	7	3	10		
G4	11	4	15		

Future Airport Development				
All	Construction	Program	Construction	
Alternatives	Cost	Development	& Program	
		Cost	Development	
			Total Cost	
	(\$ Million)	(\$ Million)	(\$ Million)	
300 Stall				
Garage	8	3	11	

ction Program Develop Cost	
Develop	ment & Program
	•
Cost	Dovolonment
	Development
	Total Cost
lion) (\$ Mill	ion) (\$ Million)
6 53	199
3 45	168
3 52	195
35	133
8 62	230
3 54	207
3 17	60
3 22	68
2 16	58
	6 53 3 45 3 52 8 35 8 62 3 54 8 17 6 22

Rounded Gra	and Totals (Ne	arest \$5 Millio	n)
Alignment	Construction	Program	Construction
	Cost	Development	& Program
		Cost	Development
			Total Cost
	(\$ Million)	(\$ Million)	(\$ Million)
C3(a) - 200	145	55	200
C3(b) - 120	125	45	170
C4 - 200	145	50	195
D1-120	100	35	135
F1 - 200	170	60	230
F3 - 200	155	55	210
G2	45	15	60
G3	45	20	65
G4	40	15	55

GRAVINA ACCESS PROJECT	OPTION :	C3(a) - Airport Access				
		200' B	RIDGE CLEAF	RANCE		
	7/29/2003 7:36					Pag
Width Clearing & Grubbing (m) - Wc			Roadway (m) =	=		- "2
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>0+000</u>	0+000	0		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = <u>10.30</u>	11+500 13+503	11+768 14+372	268 869		
Length Culvert Crossings (m) - Lc	= 10.30 = 40	0+000	0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr Contingency Line O (%) - Co	= <u>50</u> = <u>15.0%</u>		ng Bridges (m) = id - Bridges (m) = # Bridges = 1	= <u>0</u> = 1137		
CONCEPT COST ESTIMATE		# Culv	#Tunnels = 0			
			eek Crossings = 0			TOTAL
	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COS
A EARTHWORK 1. Clearing and Grubbing	HECTARES	\$11,000	4	\$44,000	5.0%	\$46,000
2. Common Excavation	CUBIC METER	\$11,000	0	\$44,000	10.0%	\$46,000
3. Rock Excavation	CUBIC METER	\$13	154600	\$2,010,000	10.0%	\$2,211,000
4. Borrow	CUBIC METER	\$12	<u>171600</u>	\$2,059,000	10.0%	\$2,265,000
B SURFACING / PAVING			+			
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	4992	\$225,000	2.5%	\$231,000
2. Aggregate Base Course	MEGAGRAM	\$24	5401	\$130,000	5.0%	\$137,000
3. Gravel Borrow	MEGAGRAM	\$12	11712	\$141,000	10.0%	\$155,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	300	\$60,000	1.0%	\$61,000
C STRUCTURES			+			
Bridges (See above for number) Superstructure.	SQUARE METER	\$2,153	25331	\$54,532,000	10.0%	\$59,985,000
b. Substructure	SQUARE METER	\$2,133	23331	334,332,000	10.0 / 0	\$32,203,00
i. Deep Water	LUMP SUM	\$13,629,820	1	\$13,630,000	25.0%	\$17,038,00
ii. Shallow Water	SQUARE METER	\$1,615	7095.6	\$11,459,000	25.0%	\$14,324,00
iii. Over Land	SQUARE METER	\$1,076	12826.1	\$13,801,000	25.0%	\$17,251,00
Moveable Bridge Parking Garage	SQUARE METER LUMP SUM	\$0 \$7,000,000	0	\$0 \$0	0.0%	\$0 \$0
	ECMI SCM	37,000,000	v	30	0.070	90
D DRAINAGE 1. Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	0	\$100,000	0.0%	\$207,000
3. Other Drainage	SQUINE WETEN	\$1,010		30	0.070	Ψ0
a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	1137	\$114,000	15.0%	\$131,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
Connection to Airport	LUMP SUM	\$181,500	1	\$182,000	10.0%	\$200,000
2. Connection to Ketchikan	LUMP SUM	\$121,000	1	\$121,000	10.0%	\$133,000
G SUB TOTAL (Lines A, B, D through F)						\$6,027,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$361,620	1	\$362,000		\$362,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$180,810	1	\$181,000		\$181,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control devices, lighting/load centers, etc.)	LUMP SUM	\$1,506,750	1	\$1,507,000		\$1,507,000
	LUMP SUM	\$1,500,750	1	\$1,507,000		
I SUB TOTAL (Lines G through H)						\$8,077,000
J FERRY TERMINAL						
1. Passenger Shelter & Ticket Booth	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	<u>0</u>	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)						\$116,675,00
L MOBILIZATION (10% of Line K)	LUMP SUM	\$11,667,500	1	\$11,668,000		\$11,668,00
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$128,343,00
	I IIIAD OXDA	610.351.450	1 .	010 351 000		
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$19,251,450	1	\$19,251,000		\$19,251,00
P MITIGATION (2% of Line N)	LUMP SUM	\$2,566,860	1	\$2,000,000		\$2,000,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$10,267,440	1	\$10,267,000		\$10,267,00
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$14,117,730	1	\$14,118,000		\$14,118,00
	LUMP SUM	\$587,172		\$587,000		\$587,000
S RIGHT OF WAY			1			

GRAVINA ACCESS PROJECT	OPTION :	C3(a)	- Development			
		200' B	RIDGE CLEAF	RANCE		
	7/29/2003 7:36					Pa
Width Clearing & Grubbing (m) - Wc	= 35		Roadway (m) =			
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	10+000	11+500	1500		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = 10.30	0+000 0+000	0+000 0+000	0		
Length Culvert Crossings (m) - Lc	= 10.30 = 40	15+325	18+557	3232		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= <u>50</u>		ng Bridges (m)	<u> 55</u>		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	# Bridges (m) = # Bridges = 0 # Tunnels = 0			
		# Culv	ert Crossings = 9			
			eek Crossings = 3			
	TINUTES	TIME COCT	OTI A NUTRITA	COCT	CONTENICENCY	TOTAL
A EARTHWORK	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COS
1. Clearing and Grubbing	HECTARES	\$11,000	16.4	\$180,000	5.0%	\$189,000
2. Common Excavation	CUBIC METER	\$9	193600	\$1,742,000	10.0%	\$1,916,000
3. Rock Excavation	CUBIC METER	\$13	0	\$0	10.0%	\$0
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	20533	\$924,000	2.5%	\$947,000
2. Aggregate Base Course	MEGAGRAM	\$24	22216	\$533,000	5.0%	\$560,000
3. Gravel Borrow 4. A ambelt Comput (BC, 52, 28) (69/ of A ambelt Comp. Paymet)	MEGAGRAM	\$12	48174	\$578,000	10.0%	\$636,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	1232	\$246,400	1.0%	\$249,000
C STRUCTURES						
1. Bridges (See above for number)	COLLABE ASSESSE	00		00	10.007	60
a. Superstructure. b. Substructure	SQUARE METER	<u>\$0</u>	0	\$0	10.0%	\$0
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER	\$0	<u>0</u>	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
3. Other Drainage	METER	6100	4677	0460,000	15.00/	0520.000
a. Development Access b. Airport Access	METER METER	\$100 \$100	4677 0	\$468,000 \$0	15.0% 15.0%	\$538,000 \$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	<u>0</u>	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$6,558,00
H MISCELLANEOUS ROADWAY ITEMS						
Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$393,480	1	\$393,000		\$393,000
Other Excavation and Embankment Construction (3% of			- -			
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$196,740	1	\$197,000		\$197,000
· /			<u> </u>	2-27,000		>,,000
3. <u>Miscellanceous Construction Items</u> (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections, SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,639,500	<u>1</u>	\$1,640,000		\$1,640,00
I SUB TOTAL (Lines G through H)						\$8,788,00
J FERRY TERMINAL 1. Passenger Shelter & Ticket Booth	SQUARE METER	\$0	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0 \$0
SUB TOTAL (Lines A through F, H & J)			-			\$8,788,00
L MOBILIZATION (10% of Line K)	LUMP SUM	\$878,800	1	\$879,000		\$879,000
Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$9,667,00
· · · · · · · · · · · · · · · · · · ·						
CONTINGENCIES (15% of Lines N)	LUMP SUM	\$1,450,050	1	\$1,450,000		\$1,450,00
P MITIGATION (2% of Line N)	LUMP SUM	\$193,340	1	\$193,000		\$193,000
				· ·		
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$773,360	1	\$773,000		\$773,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$1,063,370	1	\$1,063,000		\$1,063,00
S RIGHT OF WAY	LUMP SUM	\$0	1	\$0		\$0
						-20

GRAVINA ACCESS PROJECT	OPTION	: C3(b)	- Airport Acce	ss		
		120' BI	RIDGE CLEAR	RANCE		
	7/29/2003 7:36					Page
Width Clearing & Grubbing (m) - Wc	= <u>35</u>		Roadway (m) =	:		1 age
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	0+000	0+000	0		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = <u>10.30</u>	11+500 13+536	12+239 14+361	739 825		
	= <u>10.50</u> = 40	0+000	0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
	= 50		ng Bridges (m) =	0		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	d - Bridges (m) = # Bridges = 1	1504		
00.1021 1 0001 2011.1112			#Tunnels = 0			
			ert Crossings = 9			
		#Bridge Cre	eek Crossings = 0			TOTAL
	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COST
A EARTHWORK						
Clearing and Grubbing Common Excavation	HECTARES CUBIC METER	\$11,000 \$9	5.5 4300	\$61,000 \$39,000	5.0% 10.0%	\$64,000 \$43,000
3. Rock Excavation	CUBIC METER	\$13	104100	\$1,353,000	10.0%	\$1,488,000
4. Borrow	CUBIC METER	\$12	103800	\$1,246,000	10.0%	\$1,371,000
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	6866	\$309,000	2.5%	\$317,000
2. Aggregate Base Course	MEGAGRAM	\$24	7429	\$178,000	5.0%	\$187,000
3. Gravel Borrow 4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM MEGAGRAM	\$12 \$200	16110 412	\$193,000 \$82,400	10.0%	\$212,000 \$83,000
	MEGAGKANI	5200	712	902,400	1.0 /0	903,000
C STRUCTURES 1. Bridges (See above for number)	+			-		
a. Superstructure.	SQUARE METER	\$2,153	18,936	\$40,766,000	10.0%	\$44,843,000
b. Substructure				., ., ., .,		, , , , , , ,
i. Deep Water	LUMP SUM	\$16,410,000	1	\$16,410,000	25.0%	\$20,513,000
ii. Shallow Water iii. Over Land	SQUARE METER SQUARE METER	\$1,615 \$1,076	7,981 5,845	\$12,889,000 \$6,289,000	25.0% 25.0%	\$16,111,000 \$7,861,000
2. Moveable Bridge	SQUARE METER	\$0	0	\$0,289,000	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	0	\$0	0.0%	\$0
3. Other Drainage a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	1564	\$156,000	15.0%	\$179,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
	Econ Scot	\$200,000	-	3200,000	010 / 0	0200,000
F MISCELLANEOUS ROADS 1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	1	\$121,000	10.0%	\$133,000
G SUB TOTAL (Lines A, B, D through F)						\$4,534,000
H MISCELLANEOUS ROADWAY ITEMS						- 7 7
Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$272,040	1	\$272,000		\$272,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$136,020	1	\$136,000		\$136,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration, construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,133,500	1	\$1,134,000		\$1,134,000
I SUB TOTAL (Lines G through H)		. , ,		- , - ,		
						\$6,076,000
J FERRY TERMINAL 1. Passenger Shelter & Ticket Booth	SQUARE METER	\$0	0	\$0	0.0%	\$0
Passenger Snetter & Ticket Booth Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u> <u>\$0</u>	0	\$0 \$0	0.0%	\$0 \$0
K SUB TOTAL (Lines A through F, H & J)		-	-			\$95,404,000
· · · · · · · · · · · · · · · · · · ·						
L MOBILIZATION (10% of Line K)	LUMP SUM	\$9,540,400	1	\$9,540,000		\$9,540,000
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$104,944,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$15,741,600	1	\$15,742,000		\$15,742,000
· · · · · · · · · · · · · · · · · · ·						
P MITIGATION (2% of Line N)	LUMP SUM	\$2,098,880	1	\$2,000,000		\$2,000,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$8,395,520	1	\$8,396,000		\$8,396,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$11,543,840	1	\$11,544,000		\$11,544,000
S RIGHT OF WAY	LUMP SUM	\$850,917	1	\$851,000		\$851,000
T TOTAL ESTIMATED COST (Lines N through S)			_	, , , , , , , , ,		\$143,000,000

GRAVINA ACCESS PROJECT	OPTION	: C3(b)	- Development			
		120' B	RIDGE CLEAF	RANCE		
	7/29/2003 7:36					Pag
Width Clearing & Grubbing (m) - Wc	= 35		Roadway (m)			
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	10+000	11+500	1500		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = <u>10.30</u>	0+000 0+000	0+000 0+000	0		
Length Culvert Crossings (m) - Lc	= 40	15+325	18+557	3232		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= <u>50</u>		ng Bridges (m)	<u> 55</u>		
Concept Cost Estimate Concept Cost Estimate	= 15.0%	Length Roa	# Bridges (m) = # Bridges = # Tunnels = # # # # # # # # # # # # # # # # # #			
		# Culv	ert Crossings = 9			
			eek Crossings = 3			
	LINUTE	INTE COST	OT A NUTRITIVE	COCT	CONTENICENCY	TOTAL
A EARTHWORK	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COS
Clearing and Grubbing	HECTARES	\$11,000	16.4	\$180,000	5.0%	\$189,000
2. Common Excavation	CUBIC METER	\$9	163700	\$1,473,000	10.0%	\$1,620,000
3. Rock Excavation	CUBIC METER	\$13	<u>0</u>	\$0	10.0%	\$0
4. Borrow	CUBIC METER	\$12	38900	\$467,000	10.0%	\$514,000
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	20533	\$924,000	2.5%	\$947,000
2. Aggregate Base Course	MEGAGRAM	\$24	22216	\$533,000	5.0%	\$560,000
3. Gravel Borrow A Applied Compart (DC 52-28) (69/ of Applied Comp. Paymet)	MEGAGRAM	\$12	48174	\$578,000	10.0%	\$636,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	1232	\$246,400	1.0%	\$249,000
C STRUCTURES						
1. Bridges (See above for number)	COLLABE MEETE	0.0		44	10.00/	60
a. Superstructure. b. Substructure	SQUARE METER	<u>\$0</u>	0	\$0	10.0%	\$0
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER	\$0	<u>0</u>	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
3. Other Drainage a. Development Access	METER	\$100	4677	\$468,000	15.0%	\$538,000
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	<u>0</u>	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$6,776,000
H MISCELLANEOUS ROADWAY ITEMS						
Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$406,560	1	\$407,000		\$407,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$203,280	<u>1</u>	\$203,000		\$203,000
3. Miscellanceous Construction Items (25% of Line G; Items						
3. <u>Miscellanceous Construction Items</u> (25% of Line G; Items include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,694,000	1	\$1,694,000		\$1,694,000
I SUB TOTAL (Lines G through H)						\$9,080,000
J FERRY TERMINAL						
1. Passenger Shelter & Ticket Booth	SQUARE METER	\$0	0	\$0	0.0%	\$0
Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)	-					\$9,080,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$908,000	1	\$908,000		\$908,000
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)			+			\$9,988,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$1,498,200	1	\$1,498,000		\$1,498,000
P MITIGATION (2% of Line N)	LUMP SUM	\$199,760	1	\$200,000		\$200,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$799,040	1	\$799,000		\$799,000
i i i i i i i i i i i i i i i i i i i				Í .		
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$1,098,680	1	\$1,099,000		\$1,099,000
S RIGHT OF WAY	LUMP SUM	<u>\$0</u>	1	\$0		\$0
			_			

GRAVINA ACCESS PROJECT	OPTION	C4	- Airport Acce			
		200' B	RIDGE CLEAR	RANCE		·
	7/29/2003 7:36		+ +			Page
Width Clearing & Grubbing (m) - Wc			Roadway (m) =	:		1 ag
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>0+000</u>	<u>0+000</u>	0		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= 4.75	11+500	11+768	268		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Lc	= <u>10.30</u> = 40	13+288 0+000	14+133 0+000	845 0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= 50		ng Bridges (m) =	<u>0</u>		
Concept Cost Estimate Concept Cost Estimate	= 15.0%	Length Roa	# Bridges (m) = # Bridges = 1	1113		
		# Culv	#Tunnels = 0 rert Crossings = 9			
		#Bridge Cr	eek Crossings = 0			TOTAL
	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	TOTAL ITEM COST
A EARTHWORK	HECEL DEC	011 000	2.0	0.42.000	7 00/	0.45.000
Clearing and Grubbing Common Excavation	HECTARES CUBIC METER	\$11,000 \$9	3.9	\$43,000 \$0	5.0% 10.0%	\$45,000 \$0
3. Rock Excavation	CUBIC METER	\$13	568000	\$7,384,000	10.0%	\$8,122,000
4. Borrow	CUBIC METER	\$12	215200	\$2,582,000	10.0%	\$2,840,000
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	4887	\$220,000	2.5%	\$226,000
2. Aggregate Base Course	MEGAGRAM	\$24	5287	\$127,000	5.0%	\$133,000
3. Gravel Borrow	MEGAGRAM	\$12	11464	\$138,000	10.0%	\$152,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	294	\$58,800	1.0%	\$59,000
C STRUCTURES						
1. Bridges (See above for number)	COVIET	05.15		0.45 === : : :	10.00	
a. Superstructure. b. Substructure	SQUARE METER	\$2,153	22192	\$47,775,000	10.0%	\$52,553,000
i. Deep Water	LUMP SUM	\$13,629,820	1	\$13,630,000	25.0%	\$17,038,000
ii. Shallow Water	SQUARE METER	\$1,615	6935	\$11,200,000	25.0%	\$14,000,000
iii. Over Land	SQUARE METER	\$1,076	9971	\$10,728,000	25.0%	\$13,410,000
2. Moveable Bridge	SQUARE METER	\$0	<u>0</u>	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
Bridges needed for creek crossings (See above for number) Other Drainage	SQUARE METER	\$1,615	0	\$0	0.0%	\$0
a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	1113	\$111,000	15.0%	\$128,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
	LUMI SUM	\$250,000	1	\$250,000	0.076	\$250,000
F MISCELLANEOUS ROADS	A AND CAND	0101 700		0102 000	10.00/	0200 000
Connection to Airport Connection to Ketchikan	LUMP SUM LUMP SUM	\$181,500 \$121,000	0	\$182,000 \$0	10.0% 10.0%	\$200,000 \$0
	LUMP SUM	\$121,000	<u>U</u>	30	10.0%	
G SUB TOTAL (Lines A, B, D through F)						\$12,362,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$741,720	1	\$742,000		\$742,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$370,860	1	\$371,000		\$371,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control devices, lighting/load centers, etc.)	LUMP SUM	\$3,090,500	1	\$3,091,000		\$3,091,000
	LUMI SUM	\$3,090,300	<u> </u>	33,071,000		
I SUB TOTAL (Lines G through H)						\$16,566,000
J FERRY TERMINAL						
Passenger Shelter & Ticket Booth Passenger Shelter & Ticket Booth	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	<u>0</u>	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)						\$113,567,00
L MOBILIZATION (10% of Line K)	LUMP SUM	\$11,356,700	1	\$11,357,000		\$11,357,000
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$124,924,00
<u> </u>	V V 200 0000	040 ==== :::		040 =00 :::		
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$18,738,600	1	\$18,739,000		\$18,739,000
P MITIGATION (2% of Line N)	LUMP SUM	\$2,498,480	1	\$2,000,000		\$2,000,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$9,993,920	1	\$9,994,000		\$9,994,000
· · · · · · · · · · · · · · · · · · ·						
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$13,741,640	1	\$13,742,000		\$13,742,000
S RIGHT OF WAY	LUMP SUM	<u>\$1,585,154</u>	1	\$1,585,000		\$1,585,000
T TOTAL ESTIMATED COST (Lines N through S)	+			1	1	\$171,000,000

GRAVINA ACCESS PROJECT	OPTION	C4	- Development			
		200' B	RIDGE CLEAF	RANCE		
	7/29/2003 7:36					Pag
Width Clearing & Grubbing (m) - Wc			Roadway (m) =	:		1 4 5
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>10+000</u>	<u>11+500</u>	1500		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= <u>4.75</u>	0+000	0+000	0		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Le	= <u>10.30</u> = 40	0+000 15+325	0+000 18+557	3232		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= 50		ing Bridges (m) =	<u>55</u>		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	# Bridges (m) =			
		# Culv	#Tunnels = 0 vert Crossings = 9			
			eek Crossings = 3			
	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	TOTAL ITEM COS
A EARTHWORK	UNITS	UNII COSI	QUANTITY	<u>COS1</u>	CONTINGENCY	HEM COS
1. Clearing and Grubbing	HECTARES	\$11,000	16.4	\$180,000	5.0%	\$189,000
2. Common Excavation	CUBIC METER	\$9	157400	\$1,417,000	10.0%	\$1,559,000
3. Rock Excavation	CUBIC METER	\$13	<u>0</u>	\$0	10.0%	\$0
4. Borrow	CUBIC METER	\$12	<u>26400</u>	\$317,000	10.0%	\$349,000
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	20533	\$924,000	2.5%	\$947,000
2. Aggregate Base Course	MEGAGRAM	\$24	22216	\$533,000	5.0%	\$560,000
3. Gravel Borrow	MEGAGRAM	\$12	48174	\$578,000	10.0%	\$636,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	1232	\$246,400	1.0%	\$249,000
C STRUCTURES						
1. Bridges (See above for number)						
a. Superstructure.	SQUARE METER	<u>\$0</u>	<u>0</u>	\$0	10.0%	\$0
b. Substructure	* ***					
i. Deep Water ii. Shallow Water	LUMP SUM SQUARE METER	\$14,700,000 \$1,615	0	\$0 \$0	25.0% 25.0%	\$0 \$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER	\$0	0	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE						
1. Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
3. Other Drainage						
a. Development Access	METER	\$100	4677	\$468,000	15.0%	\$538,000
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)		,,,,,	_			\$6,550,000
G SOB TOTAL (Lines A, B, D unough F)						30,550,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$393,000	1	\$393,000		\$393,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$196,500	1	\$197,000		\$197,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,637,500	1	\$1,638,000		\$1,638,000
I SUB TOTAL (Lines G through H)						\$8,778,000
J FERRY TERMINAL						
1. Passenger Shelter & Ticket Booth	SQUARE METER	\$0	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)		_				\$8,778,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$877,800	1	\$878,000		\$878,000
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)			_			\$9,656,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$1,448,400	1	\$1,448,000		\$1,448,000
P MITIGATION (2% of Line N)	LUMP SUM	\$193,120	1	\$193,000		\$193,000
· · · · · · · · · · · · · · · · · · ·				· ·		
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$772,480	1	\$772,000		\$772,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$1,062,160	1	\$1,062,000		\$1,062,000
S RIGHT OF WAY	LUMP SUM	\$0	1	\$0		\$0
~	201711 00171	90	-	ΨΨ		ψU

GRAVINA ACCESS PROJECT	OPTION :	D1	- Airport Acce			
		120' B	RIDGE CLEAF	RANCE		-
	7/29/2003 7:36					Pag
Width Clearing & Grubbing (m) - Wc			Roadway (m) =	=		1 45
	= 4.39	<u>0+000</u>	<u>0+000</u>	0		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= <u>4.75</u>	11+500	11+602	102		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Le	= <u>10.30</u> = 40	12+582 0+000	13+155 0+000	573		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= <u>50</u>		ng Bridges (m)	<u>0</u>		
Concept Cost Estimate Concept Cost Estimate	= 15.0%	Length Roa	# Bridges (m) = # Bridges = 1 #Tunnels = (= 675 L		
		# Culv	ert Crossings =)		
		#Bridge Cro	eek Crossings =)		TOTAL
	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	TOTAL ITEM COST
A EARTHWORK	011110	011111111111111111111111111111111111111	QUILLIA	0001	CONTINUENCE	TTEM COO.
1. Clearing and Grubbing	HECTARES	\$11,000	2.4	\$26,000	5.0%	\$27,000
2. Common Excavation	CUBIC METER	\$9	<u>0</u>	\$0	10.0%	\$0
3. Rock Excavation 4. Borrow	CUBIC METER CUBIC METER	\$13 \$12	350400 226200	\$4,555,000 \$2,714,000	10.0% 10.0%	\$5,011,000 \$2,985,000
	CUBIC METER	312	220200	52,714,000	10.076	\$2,985,000
B SURFACING / PAVING	1500100111		2051			2124.000
1. Asphalt Concrete Pavement	MEGAGRAM	\$45 \$24	2964	\$133,000 \$77,000	2.5%	\$136,000
Aggregate Base Course Gravel Borrow	MEGAGRAM MEGAGRAM	\$24 \$12	3207 6953	\$77,000 \$83,000	5.0% 10.0%	\$81,000 \$91,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	178	\$35,600	1.0%	\$36,000
1				,		,000
C STRUCTURES 1. Bridges (See above for number)				+		
a. Superstructure.	SQUARE METER	\$2,153	14308	\$30,802,000	10.0%	\$33,882,000
b. Substructure	oquine meren	\$2,100	11000	320,002,000	101070	\$22,002,000
i. Deep Water	LUMP SUM	\$10,260,000	1	\$10,260,000	25.0%	\$12,825,000
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land	SQUARE METER SQUARE METER	\$1,076 \$0	9334	\$10,044,000	25.0% 0.0%	\$12,555,000
Moveable Bridge Parking Garage	LUMP SUM	\$7,000,000	0	\$0 \$0	0.0%	\$0 \$0
	LUMI SUM	37,000,000	<u>u</u>	30	0.076	30
D DRAINAGE	METER	6500	260	6100.000	15.00/	6207.000
Culvert Crossings (See above for number) Bridges needed for creek crossings (See above for number)	METER SQUARE METER	\$500 \$1,615	360	\$180,000 \$0	15.0% 0.0%	\$207,000 \$0
3. Other Drainage	SQUARE METER	\$1,013	0	30	0.076	30
a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	675	\$68,000	15.0%	\$78,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	1	\$182,000	10.0%	\$200,000
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)		,,,,,	_			\$9,102,000
						\$9,102,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,	A ALD CALD	0746 120	_	0746.000		0746000
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$546,120	1	\$546,000		\$546,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$273,060	1	\$273,000		\$273,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control devices, lighting/load centers, etc.)	LUMP SUM	\$2,275,500	1	\$2,276,000		\$2,276,000
	Ecini Scini	\$2,273,300	-	\$2,270,000		
I SUB TOTAL (Lines G through H)				1		\$12,197,000
J FERRY TERMINAL						
1. Passenger Shelter & Ticket Booth	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)						\$71,459,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$7,145,900	1	\$7,146,000		\$7,146,000
					0.00/	
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$78,605,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$11,790,750	1	\$11,791,000		\$11,791,000
P MITIGATION (2% of Line N)	LUMP SUM	\$1,572,100	1	\$1,572,000		\$1,572,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$6,288,400	1	\$6,288,000		\$6,288,000
Q ENGINEERING/ADMINISTRATION (8/0 01 LIRE IV)					i i	
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$8,646,550	1	\$8,647,000		\$8,647,000
	LUMP SUM LUMP SUM	\$8,646,550 \$241,395	1	\$8,647,000 \$241,000		\$8,647,000 \$241,000

GRAVINA ACCESS PROJECT	OPTION :	D1	- Development			
		120' B	RIDGE CLEAF	RANCE		
	7/29/2003 7:36					Pag
Width Clearing & Grubbing (m) - Wc	= 35		Roadway (m) =			
Unit Weight Asphalt (Megagram/m) - Wa	= <u>4.39</u>	10+000	11+500	1500		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = <u>10.30</u>	0+000 0+000	0+000 0+000	0		
Length Culvert Crossings (m) - Lc	= <u>10.50</u> = 40	15+325	18+557	3232		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= <u>50</u>		ng Bridges (m)	<u> 55</u>		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	# Bridges (m) = # Bridges = 0 #Tunnels = 0			
		# Culy	rert Crossings = 9			
			eek Crossings = 3			
						TOTAL
A EARTHWORK	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COS
1. Clearing and Grubbing	HECTARES	\$11,000	16.4	\$180,000	5.0%	\$189,000
2. Common Excavation	CUBIC METER	\$9	167400	\$1,507,000	10.0%	\$1,658,000
3. Rock Excavation	CUBIC METER	\$13	0	\$0	10.0%	\$0
4. Borrow	CUBIC METER	\$12	72300	\$868,000	10.0%	\$955,000
B SURFACING / PAVING						
Asphalt Concrete Pavement	MEGAGRAM	\$45	20533	\$924,000	2.5%	\$947,000
2. Aggregate Base Course	MEGAGRAM	\$24	22216	\$533,000	5.0%	\$560,000
3. Gravel Borrow	MEGAGRAM	\$12	48174	\$578,000	10.0%	\$636,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	1232	\$246,400	1.0%	\$249,000
C STRUCTURES	1	1	+			
Bridges (See above for number)						
a. Superstructure.	SQUARE METER	<u>\$0</u>	0	\$0	10.0%	\$0
b. Substructure						
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land 2. Moyeable Bridge	SQUARE METER SQUARE METER	\$1,076 \$0	0	\$0 \$0	25.0% 0.0%	\$0 \$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
	nem sem	\$7,000,000			0.070	
D DRAINAGE	METER	6500	360	6100.000	15.00/	6207.000
Culvert Crossings (See above for number) Bridges needed for creek crossings (See above for number)	SQUARE METER	\$500 \$1,615	660	\$180,000 \$1,066,000	15.0% 0.0%	\$207,000 \$1,066,000
3. Other Drainage	SQUILL METER	\$1,010	000	\$1,000,000	0.070	31,000,000
a. Development Access	METER	\$100	4677	\$468,000	15.0%	\$538,000
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
		,	_			
F MISCELLANEOUS ROADS 1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0 \$0
		0222,000		4.0		
G SUB TOTAL (Lines A, B, D through F)						\$7,255,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$435,300	1	\$435,000		\$435,000
2. Other Excavation and Embankment Construction (3% of		1	1			
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$217,650	1	\$218,000		\$218,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,813,750	1	\$1,814,000		\$1,814,000
I SUB TOTAL (Lines G through H)						\$9,722,000
J FERRY TERMINAL 1. Passenger Shelter & Ticket Booth	SQUARE METER	\$0	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0 \$0
K SUB TOTAL (Lines A through F, H & J)			- -			\$9,722,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$972,200	1	\$972,000		\$972,000
M Ferry System Acquisition Cost	LUMP SUM	\$0	0	\$0	0.0%	\$0
		-				
N SUB TOTAL (Lines K through M)		<u> </u>	<u>+</u> -+	<u> </u>		\$10,694,00
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$1,604,100	1	\$1,604,000		\$1,604,000
P MITIGATION (2% of Line N)	LUMP SUM	\$213,880	1	\$214,000		\$214,000
· · · · · · · · · · · · · · · · · · ·						
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$855,520	1	\$856,000		\$856,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$1,176,340	1	\$1,176,000		\$1,176,000
S RIGHT OF WAY	LUMP SUM	\$0	1	\$0		\$0

GRAVINA ACCESS PROJECT	OPTION :	F3 - Airport Access				
		200' BI	RIDGE CLEAR	RANCE		-
	7/29/2003 7:36					Pa
Width Clearing & Grubbing (m) - Wc	= 35		Roadway (m) =			- **,
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	10+000	<u>12+080</u>	2080		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = 10.30	11+489 510+000	15+023 510+755	3534 755		
Length Culvert Crossings (m) - Lc	= 10.30 = 40	511+966	513+220	1254		
Width Creek Crossing Bridge (m) - Wbr	= 12	<u>10+960</u>	11+150	190		
Width of Right of Way (m) - Wr	= <u>50</u>		ng Bridges (m) =	<u>70</u>		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	d - Bridges (m) = # Bridges = 1 #Tunnels = 0	7743		
		# Culv	ert Crossings = #			
			ek Crossings = 2			
	XIN WEDG	TRUTT COOT	OXI A NIMENTAL	COCT	COMMUNICATION	TOTAL
A EARTHWORK	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COS
1. Clearing and Grubbing	HECTARES	\$11,000	27.2	\$299,000	5.0%	\$314,000
2. Common Excavation	CUBIC METER	\$9	249000	\$2,241,000	10.0%	\$2,465,000
3. Rock Excavation	CUBIC METER	\$13	<u>50000</u>	\$650,000	10.0%	\$715,000
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	33992	\$1,530,000	2.5%	\$1,568,000
2. Aggregate Base Course	MEGAGRAM	\$24	36780	\$883,000	5.0%	\$927,000
3. Gravel Borrow	MEGAGRAM	\$12	79753	\$957,000	10.0%	\$1,053,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	2040	\$408,000	1.0%	\$412,000
C STRUCTURES						
1. Bridges (See above for number)	COLLADE METER	62 152	24017	651 503 000	10.00/	657 053 00
a. Superstructure. b. Substructure	SQUARE METER	\$2,153	24017	\$51,703,000	10.0%	\$56,873,00
i. Deep Water	LUMP SUM	\$18,514,656	1	\$18,515,000	25.0%	\$23,144,00
ii. Shallow Water	SQUARE METER	\$1,615	2355	\$3,804,000	25.0%	\$4,755,000
iii. Over Land	SQUARE METER	\$1,076	11650	\$12,535,000	25.0%	\$15,669,00
2. Moveable Bridge	SQUARE METER	\$0	<u>0</u>	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	600	\$300,000	15.0%	\$345,000
2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	840	\$1,357,000	0.0%	\$1,357,000
Other Drainage Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	7743	\$774,000	15.0%	\$890,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	<u>0</u>	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$10,296,00
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$617,760	1	\$618,000		\$618,000
2. Other Excavation and Embankment Construction (3% of					(\$11 M added for	
Line G; Items include muck excavation, minor structure					West Channel	
excavation and backfill, etc.)	LUMP SUM	\$11,308,880	1	\$11,309,000	dredging)	\$11,309,00
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$2,574,000	1	\$2,574,000		\$2,574,00
I SUB TOTAL (Lines G through H)						\$24,797,00
I CERRY TERMINAL						
J FERRY TERMINAL 1. Passenger Shelter & Ticket Booth	SQUARE METER	\$0	0	\$0	0.0%	\$0
Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
SUB TOTAL (Lines A through F, H & J)			-			\$125,238,0
L MOBILIZATION (10% of Line K)	LUMP SUM	\$12,523,800	1	\$12,524,000		\$12,524,00
Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	<u>0</u>	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)		+				\$137,762,0
· · · · · · · · · · · · · · · · · · ·						
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$20,664,300	1	\$20,664,000		\$20,664,00
P MITIGATION (2% of Line N)	LUMP SUM	\$2,755,240	1	\$2,000,000	<u> </u>	\$2,000,00
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$11,020,960	1	\$11,021,000		\$11,021,00
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$15,153,820	1	\$15,154,000		\$15,154,00
S RIGHT OF WAY	LUMP SUM	<u>\$50,166</u>	1	\$50,000		\$50,000

GRAVINA ACCESS PROJECT	OPTION	F3	- Development			
		200' B	RIDGE CLEAF	RANCE		
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Width Clearing & Grubbing (m) - Wc			Roadway (m) =	:		1 450
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>0+000</u>	<u>0+000</u>	0		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= <u>4.75</u>	0+000	0+000	0		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Lc	= <u>10.30</u> = 40	0+000 15+325	0+000 18+557	3232		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= 50		ng Bridges (m) =	<u>55</u>		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	# Bridges (m) =			
			#Tunnels = 0 vert Crossings = 9 eek Crossings = 3			
		#Bridge Cr	eek Crossings = 3			TOTAL
	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COS
A EARTHWORK	HECTARES	\$11,000	12.4	\$136,000	5.0%	\$143,000
Clearing and Grubbing Common Executation	CUBIC METER	\$11,000	12.4 60000	\$136,000	10.0%	\$143,000
3. Rock Excavation	CUBIC METER	\$13	0	\$0	10.0%	\$0
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	13948	\$628,000	2.5%	\$644,000
2. Aggregate Base Course	MEGAGRAM	\$24	15091	\$362,000	5.0%	\$380,000
3. Gravel Borrow	MEGAGRAM	\$12	48000	\$576,000	10.0%	\$634,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	837	\$167,400	1.0%	\$169,000
C STRUCTURES						
Bridges (See above for number)						
a. Superstructure.	SQUARE METER	<u>\$0</u>	0	\$0	10.0%	\$0
b. Substructure						
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water iii. Over Land	SQUARE METER SQUARE METER	\$1,615 \$1,076	0	\$0 \$0	25.0% 25.0%	\$0 \$0
2. Moveable Bridge	SQUARE METER	\$0	0	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE		7,	_			
DRAINAGE 1. Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
Bridges needed for creek crossings (See above for number) 2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
3. Other Drainage		- /		,,,,,,,,,,,		,,,,,,,,,
a. Development Access	METER	\$100	3177	\$318,000	15.0%	\$366,000
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)			_			\$4,453,000
						34,455,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	02/7 100	_	02/7 000		
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$267,180	1	\$267,000		\$267,000
Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$133,590	1	\$134,000		\$134,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,113,250	1	\$1,113,000		\$1,113,000
I SUB TOTAL (Lines G through H)						\$5,967,000
J FERRY TERMINAL						
1. Passenger Shelter & Ticket Booth	SQUARE METER	<u>\$0</u>	<u>0</u>	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)		+	+	<u> </u>		\$5,967,000
	T TIME CAN C	0507 500	1	0505.000		
L MOBILIZATION (10% of Line K)	LUMP SUM	\$596,700	1	\$597,000		\$597,000
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)			+			\$6,564,000
	Y 172 500 0000 0	000155		#00 F		
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$984,600	1	\$985,000		\$985,000
P MITIGATION (2% of Line N)	LUMP SUM	\$131,280	1	\$131,000		\$131,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$525,120	1	\$525,000		\$525,000
i i i i i i i i i i i i i i i i i i i						
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$722,040	1	\$722,000		\$722,000
S RIGHT OF WAY	LUMP SUM	<u>\$0</u>	1	\$0		\$0
				. —		

GRAVINA ACCESS PROJECT	OPTION	G2	- Airport Acces	SS		
			FERRY			
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Width Clearing & Grubbing (m) - Wc	= 35		Roadway (m) =			
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>15+325</u>	<u>19+250</u>	3925		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = <u>10.30</u>	10+000 0+000	11+843 0+000	1843 0		
Length Culvert Crossings (m) - Lc	= 40	0+000	0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr Contingency Line O (%) - Co	= <u>50</u> = <u>15.0%</u>	Length Roa	Bridges (m) = ad - Bridges (m) =	<u>55</u> 5713		
CONCEPT COST ESTIMATE			# Bridges = 0 #Tunnels = 0			
			ert Crossings = 9 eek Crossings = 3			
	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	TOTAL ITEM COS
A EARTHWORK						
Clearing and Grubbing Common Excavation	HECTARES CUBIC METER	\$11,000 \$9	20 255000	\$220,000 \$2,295,000	5.0% 10.0%	\$231,000 \$2,525,000
3. Rock Excavation	CUBIC METER CUBIC METER	\$13	0	\$2,295,000	10.0%	\$2,525,000
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	25081	\$1,129,000	2.5%	\$1,157,000
2. Aggregate Base Course	MEGAGRAM	\$24	27137	\$651,000	5.0%	\$684,000
3. Gravel Borrow	MEGAGRAM	\$12	58844	\$706,000	10.0%	\$777,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	1505	\$301,000	1.0%	\$304,000
C STRUCTURES						
Bridges (See above for number) Superstructure.	SQUARE METER	\$0	0	\$0	10.0%	\$0
b. Substructure	Zerma marak	<u> </u>		40	20.070	ΨΨ
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land 2. Moveable Bridge	SQUARE METER SQUARE METER	\$1,076 \$0	0	\$0 \$0	25.0% 0.0%	\$0 \$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE	337.33 337.3	2.,000,000	-		******	
Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
3. Other Drainage						
a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	5713	\$571,000	15.0%	\$657,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	<u>0</u>	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$7,858,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$471,480	1	\$471,000		\$471,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$235,740	1	\$236,000		\$236,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration, construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,964,500	1	\$1,965,000		\$1,965,000
I SUB TOTAL (Lines G through H)	Demi sem	\$1,501,000	-	\$1,500,000		\$10,530,00
						\$10,550,00
J FERRY TERMINAL 1. Passenger Shelter & Ticket Booth	SQUARE METER	\$1,100	300	\$330,000	0.0%	\$330,000
2. Earthworks, Surfacing, Paving	SQUARE METER	\$65	23100	\$1,502,000	0.0%	\$1,502,000
K SUB TOTAL (Lines A through F, H & J)				, , , , , , , , , , , , , , , , , , , ,		\$12,362,00
L MOBILIZATION (10% of Line K)	LUMP SUM	\$1,236,200	1	\$1,236,000		\$1,236,000
M Ferry System Acquisition Cost	LUMP SUM	\$1,230,200	1	\$1,250,000	0.0%	\$21,560,00
N SUB TOTAL (Lines K through M)	Zem sem	<u> </u>	-	0-1,000,000	0.070	\$35,158,00
· · · · · · · · · · · · · · · · · · ·	V VID 500 0000	0.5.0		05.554.555		
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$5,273,700	1	\$5,274,000		\$5,274,000
P MITIGATION (2% of Line N)	LUMP SUM	\$703,160	1	\$703,000		\$703,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$2,812,640	1	\$2,813,000		\$2,813,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$3,867,380	1	\$3,867,000		\$3,867,000
S RIGHT OF WAY	LUMP SUM	\$1,016,328	1	\$1,016,000		\$1,016,000
						\$49,000,00

GRAVINA ACCESS PROJECT	OPTION :	G2	- Development	Access		
			FERRY			
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Width Clearing & Grubbing (m) - Wc			Roadway (m) =	:		
Unit Weight Asphalt (Megagram/m) - Wa	= <u>4.39</u>	0+000	0+000 0+000	0		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = <u>10.30</u>	0+000 0+000	0+000	0		
Length Culvert Crossings (m) - Lc	= 40	0+000	0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= <u>50</u> = <u>15.0%</u>	Length Roa	Bridges (m) = d - Bridges (m) = # Bridges = 0	. <u>0</u>		
CONCELLCOST ESTIMATE			#Tunnels = 0 ert Crossings = 0			
		#Bridge Cre	eek Crossings = 0			TOTAL
A EARTHWORK	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COST
1. Clearing and Grubbing	HECTARES	\$11,000	0	\$0	5.0%	\$0
2. Common Excavation	CUBIC METER	\$9	<u>0</u>	\$0	10.0%	\$0
3. Rock Excavation	CUBIC METER	\$13	0	\$0	10.0%	\$0
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING	1					
1. Asphalt Concrete Pavement	MEGAGRAM MEGAGRAM	\$45 \$24	0	\$0	2.5%	\$0
Aggregate Base Course Gravel Borrow	MEGAGRAM MEGAGRAM	\$24 \$12	0	\$0 \$0	5.0% 10.0%	\$0 \$0
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	0	\$0	1.0%	\$0 \$0
C STRUCTURES						
1. Bridges (See above for number)						
a. Superstructure.	SQUARE METER	<u>\$0</u>	<u>0</u>	\$0	10.0%	\$0
b. Substructure	T TIME CLIM	614 700 000	0	60	25.00/	60
i. Deep Water ii. Shallow Water	LUMP SUM SQUARE METER	\$14,700,000 \$1,615	0	\$0 \$0	25.0% 25.0%	\$0 \$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER	\$0	0	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	<u>0</u>	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	0	\$0	15.0%	\$0
2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	0	\$0	0.0%	\$0
3. Other Drainage a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	0	\$0	0.0%	\$0
F MISCELLANEOUS ROADS						
MISCELLANEOUS ROADS Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$0
						90
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement, culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$0	1	\$0		\$0
	ECMI SCM	40	-	Ψ0		90
Other Excavation and Embankment Construction (3% of Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$0	1	\$0		\$0
	ECMI SCM	30	-	\$0		40
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections, SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$0	1	\$0		\$0
I SUB TOTAL (Lines G through H)						\$0
J FERRY TERMINAL						
Perker Terkiniya. Passenger Shelter & Ticket Booth	SQUARE METER	\$0	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)						\$0
	LUMD CUM	60	1	\$0		
L MOBILIZATION (10% of Line K)	LUMP SUM	\$0	1		0.00/	\$0
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$0
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$0	1	\$0		\$0
P MITIGATION (2% of Line N)	LUMP SUM	\$0	1	\$0		\$0
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$0	1	\$0		\$0
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$0	1	\$0		\$0
S RIGHT OF WAY	LUMP SUM	<u>\$0</u>	1	\$0		\$0
T TOTAL ESTIMATED COST (Lines N through S)						\$0

GRAVINA ACCESS PROJECT	OPTION :	G3	- Airport Acce	SS		
			FERRY			
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Width Clearing & Grubbing (m) - Wc			Roadway (m) =			1 480
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>14+135</u>	<u>15+325</u>	1190		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= <u>4.75</u> = <u>10.30</u>	10+000 0+000	11+768 0+000	1768		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Lc	= <u>10.30</u> = 40	0+000 0+000	0+000 0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= 50		Bridges (m) =	<u>60</u>		
Concept Cost estimate	= 15.0%	Length Roa	d - Bridges (m) = # Bridges = 0			
		# Culv	#Tunnels = 0 ert Crossings = 9			
			eek Crossings = 1			
	X IN VERO	VINUTE COOTE	OVI A NUMBER OF	COOT	COMMUNICATION	TOTAL
A EARTHWORK	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COST
Clearing and Grubbing	HECTARES	\$11,000	10.2	\$112,000	5.0%	\$118,000
2. Common Excavation	CUBIC METER	\$9	<u>0</u>	\$0	10.0%	\$0
3. Rock Excavation	CUBIC METER	\$13	<u>115000</u>	\$1,495,000	10.0%	\$1,645,000
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	12723	\$573,000	2.5%	\$587,000
2. Aggregate Base Course	MEGAGRAM	\$24 \$12	13766	\$330,000	5.0%	\$347,000
3. Gravel Borrow 4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM MEGAGRAM	\$12 \$200	29850 764	\$358,000 \$152,800	10.0%	\$394,000 \$154,000
	MEGAGKAM	3200	/04	9132,000	1.0 /0	9134,000
C STRUCTURES				-		
Bridges (See above for number) Superstructure.	SQUARE METER	\$0	0	\$0	10.0%	\$0
b. Substructure	SQUARE METER	<u>50</u>	<u>U</u>	30	10.070	3U
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER LUMP SUM	\$0 \$7,000,000	0	\$0 \$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	30	0.0%	\$0
D DRAINAGE						
1. Culvert Crossings (See above for number)	METER SQUARE METER	\$500	360 720	\$180,000	15.0%	\$207,000
Bridges needed for creek crossings (See above for number) Other Drainage	SQUARE METER	\$1,615	/20	\$1,163,000	0.0%	\$1,163,000
a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	2898	\$290,000	15.0%	\$334,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
	ECMI SCM	\$250,000	-	\$230,000	0.070	\$250,000
F MISCELLANEOUS ROADS 1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0 \$0
	ECMI SCM	3121,000	<u>v</u>	30	10.070	
G SUB TOTAL (Lines A, B, D through F)						\$5,199,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$311,940	1	\$312,000		\$312,000
Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$155,970	1	\$156,000		\$156,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control devices, lighting/load centers, etc.)	LUMP SUM	\$1,299,750	1	\$1,300,000		\$1,300,000
	LUMI SUM	\$1,299,730	1	\$1,500,000		
I SUB TOTAL (Lines G through H)						\$6,967,000
J FERRY TERMINAL		<u> </u>				
1. Passenger Shelter & Ticket Booth	SQUARE METER	\$1,100	300	\$330,000	0.0%	\$330,000
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$65</u>	<u>26400</u>	\$1,716,000	0.0%	\$1,716,000
K SUB TOTAL (Lines A through F, H & J)						\$9,013,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$901,300	1	\$901,000		\$901,000
i i i i i i i i i i i i i i i i i i i			1		0.00/	
M Ferry System Acquisition Cost	LUMP SUM	\$21,560,000	1	\$21,560,000	0.0%	\$21,560,000
N SUB TOTAL (Lines K through M)						\$31,474,00
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$4,721,100	1	\$4,721,000		\$4,721,000
P MITIGATION (2% of Line N)	LUMP SUM	\$629,480	1	\$629,000		\$629,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$2,517,920	1	\$2,518,000		\$2,518,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$3,462,140	1	\$3,462,000		\$3,462,000
					1	
S RIGHT OF WAY	LUMP SUM	\$4,140,310	1	\$4,140,000		\$4,140,000

GRAVINA ACCESS PROJECT	OPTION :	G3	- Development	Access		
			FERRY			
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Width Clearing & Grubbing (m) - Wc	= 35		Roadway (m) =			6.
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>15+325</u>	<u>18+557</u>	3232		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= <u>4.75</u> = <u>10.30</u>	0+000 0+000	0+000 0+000	0		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Lc	= <u>10.30</u> = 40	0+000 0+000	0+000 0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= <u>50</u>		Bridges (m) =	<u>55</u>		
Concept Cost estimate	= 15.0%	Length Roa	# Bridges (m) = # Bridges = 0 # Tunnels = 0			
			ert Crossings = 9			
		#Bridge Cro	eek Crossings = 3			TOTAL
	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COST
A EARTHWORK						
Clearing and Grubbing Common Excavation	HECTARES CUBIC METER	\$11,000 \$9	11.2	\$123,000	5.0% 10.0%	\$129,000 \$1,317,000
2. Common Excavation 3. Rock Excavation	CUBIC METER	\$13	133000 0	\$1,197,000 \$0	10.0%	\$1,317,000
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0 \$0
					201070	
B SURFACING / PAVING 1. Asphalt Concrete Pavement	MEGAGRAM	\$45	13948	\$628,000	2.5%	\$644,000
Aspnan Concrete Pavement Aggregate Base Course	MEGAGRAM	\$45 \$24	15091	\$362,000	5.0%	\$380,000
3. Gravel Borrow	MEGAGRAM	\$12	32724	\$393,000	10.0%	\$432,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	837	\$167,400	1.0%	\$169,000
C STRUCTURES						•
1. Bridges (See above for number)		+	+			
a. Superstructure.	SQUARE METER	\$0	0	\$0	10.0%	\$0
b. Substructure					2010,10	
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	<u>0</u>	\$0	25.0%	\$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER LUMP SUM	\$0 \$7,000,000	0	\$0 \$0	0.0%	\$0 \$0
3. Parking Garage	LUMP SUM	\$7,000,000	U	20	0.0%	20
D DRAINAGE						
1. Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
Bridges needed for creek crossings (See above for number) Other Drainage	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
a. Development Access	METER	\$100	3177	\$318,000	15.0%	\$366,000
b. Airport Access	METER	\$100	0	\$0	15.0%	\$00,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$4,960,000
H MISCELLANEOUS ROADWAY ITEMS						
Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$297,600	<u>1</u>	\$298,000		\$298,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$148,800	1	\$149,000		\$149,000
		,	1	22.2,000		JJ,000
3. <u>Miscellanceous Construction Items</u> (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections, SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,240,000	1	\$1,240,000		\$1,240,000
I SUB TOTAL (Lines G through H)						\$6,647,000
1 SOB TOTAL (Ellies of tillough H)						30,047,000
J FERRY TERMINAL						
1. Passenger Shelter & Ticket Booth	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	0	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)						\$6,647,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$664,700	1	\$665,000		\$665,000
	LUMP SUM			\$0	0.0%	
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	20	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$7,312,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$1,096,800	1	\$1,097,000		\$1,097,000
P MITIGATION (2% of Line N)	LUMP SUM	\$146,240	1	\$146,000	+	\$146,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$584,960	1	\$585,000		\$585,000
2		1		1	1	
	LUMP SIIM	\$804.320	1	\$804,000		\$804.000
R CONSTRUCTION MANAGEMENT (11% of Line N) S RIGHT OF WAY	LUMP SUM LUMP SUM	\$804,320 \$0	1	\$804,000 \$0		\$804,000

GRAVINA ACCESS PROJECT	OPTION :	G4 ·	- Airport Acce	SS		
			FERRY			
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Width Clearing & Grubbing (m) - Wc			Roadway (m) =	=		1 45
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	0+000	0+000	0		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= <u>4.75</u>	0+000	0+000	0		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Le	= <u>10.30</u> = 40	0+000 0+000	0+000 0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= <u>50</u>		Bridges (m) =	<u>0</u>		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	d - Bridges (m) = # Bridges = 0 #Tunnels = 0	0		
		# Culv	ert Crossings =			
		#Bridge Cre	eek Crossings =			TOTAL Y
	UNITS	UNIT COST	QUANTITY	COST	CONTINGENCY	TOTAL ITEM COS
A EARTHWORK	0.00	C.AIT COST	QUILLITIE	0001	CONTRINGENCY	1121 00.0
1. Clearing and Grubbing	HECTARES	\$11,000	0	\$0	5.0%	\$0
2. Common Excavation	CUBIC METER	\$9	0	\$0	10.0%	\$0
3. Rock Excavation 4. Borrow	CUBIC METER CUBIC METER	\$13 \$12	0	\$0 \$0	10.0% 10.0%	\$0
	CUBIC METER	312	0	30	10.0%	\$0
B SURFACING / PAVING	MDC: 27	1			2.50	
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	0	\$0	2.5%	\$0
Aggregate Base Course Gravel Borrow	MEGAGRAM MEGAGRAM	\$24 \$12	0	\$0 \$0	5.0% 10.0%	\$0 \$0
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Paymt)	MEGAGRAM	\$200	0	\$0	1.0%	\$0 \$0
		3200	,	30	1.0 / 0	90
1. Bridges (See above for number)						
Bridges (See above for number) Superstructure.	SQUARE METER	\$0	0	\$0	10.0%	\$0
b. Substructure	SQUARE METER	30	<u> </u>	30	10.0 / 0	90
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER	\$0	0	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	<u>0</u>	\$0	0.0%	\$0
D DRAINAGE						
1. Culvert Crossings (See above for number)	METER	\$500	0	\$0	15.0%	\$0
Bridges needed for creek crossings (See above for number) Other Drainage	SQUARE METER	\$1,615	0	\$0	0.0%	\$0
a. Development Access	METER	\$100	0	\$0	15.0%	\$0
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	0	\$0	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	<u>0</u>	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$250,000
H MISCELLANEOUS ROADWAY ITEMS						
1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$15,000	<u>1</u>	\$15,000		\$15,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$7,500	1	\$8,000		\$8,000
		2.,000		40,000		
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections, SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$62,500	<u>1</u>	\$63,000		\$63,000
I SUB TOTAL (Lines G through H)						\$336,000
						\$550,000
J FERRY TERMINAL 1. Passenger Shelter & Ticket Booth	SQUARE METER	\$1,100	300	\$330,000	0.0%	\$330,000
Passenger Shelter & Ticket Booth Earthworks, Surfacing, Paving	SQUARE METER	\$1,100 \$65	8500	\$553,000	0.0%	\$553,000
	· · · · · · · · · · · · · · · · · · ·	900	2000	3222,000	0.073	
SUB TOTAL (Lines A through F, H & J)			<u> </u>		<u> </u>	\$1,219,00
L MOBILIZATION (10% of Line K)	LUMP SUM	\$121,900	1	\$122,000		\$122,000
Ferry System Acquisition Cost	LUMP SUM	\$21,560,000	1	\$21,560,000	0.0%	\$21,560,00
				,,		
N SUB TOTAL (Lines K through M)						\$22,901,00
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$3,435,150	1	\$3,435,000		\$3,435,00
P MITIGATION (2% of Line N)	LUMP SUM	\$458,020	1	\$458,000		\$458,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$1,832,080	1	\$1,832,000		\$1,832,00
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$2,519,110	1	\$2,519,000		\$2,519,000
S RIGHT OF WAY	LUMP SUM	\$421,739	1	\$422,000		\$422,000

GRAVINA ACCESS PROJECT	OPTION :	G4	- Development	Access		
			FERRY			
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Width Clearing & Grubbing (m) - Wc			Roadway (m) =	=		ruge
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>10+000</u>	<u>11+850</u>	1850		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= <u>4.75</u> = <u>10.30</u>	15+325 0+000	18+557 0+000	3232		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Lc	= <u>10.30</u> = 40	0+000 0+000	0+000 0+000	0	-	
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0	1	
Width of Right of Way (m) - Wr Contingency Line O (%) - Co	= <u>50</u> = <u>15.0%</u>	Length Roa	Bridges (m) =	= <u>55</u> = 5027		
CONCEPT COST ESTIMATE			# Bridges = 0 #Tunnels = 0			
			ert Crossings = 9 eek Crossings = 3			
		"Briage er	ock crossings			TOTAL
A EARTHWORK	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COST
1. Clearing and Grubbing	HECTARES	\$11,000	17.6	\$194,000	5.0%	\$204,000
2. Common Excavation	CUBIC METER	\$9	0	\$0	10.0%	\$0
3. Rock Excavation	CUBIC METER	\$13	<u>191000</u>	\$2,483,000	10.0%	\$2,731,000
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	22069	\$993,000	2.5%	\$1,018,000
2. Aggregate Base Course	MEGAGRAM	\$24	23879	\$573,000	5.0%	\$602,000
3. Gravel Borrow 4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM MEGAGRAM	\$12 \$200	51779 1325	\$621,000 \$265,000	10.0%	\$683,000 \$268,000
	MEGAGRAM	\$200	1325	\$205,000	1.0%	\$200,000
C STRUCTURES						
Bridges (See above for number) Superstructure.	SQUARE METER	\$0	0	\$0	10.0%	\$0
b. Substructure	SQUARE METER	<u>50</u>	<u>U</u>	50	10.0%	30
i. Deep Water	LUMP SUM	\$14,700,000	0	\$0	25.0%	\$0
ii. Shallow Water	SQUARE METER	\$1,615	0	\$0	25.0%	\$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER	\$0	0	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	<u>0</u>	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
Bridges needed for creek crossings (See above for number) Other Drainage	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
a. Development Access	METER	\$100	5027	\$503,000	15.0%	\$578,000
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
•				\$250,000	0.0%	\$250,000
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS	******	2101 700			10.00/	
Connection to Airport Connection to Ketchikan	LUMP SUM LUMP SUM	\$181,500	0	\$0 \$0	10.0%	\$0 \$0
	LUMP SUM	\$121,000	0	20	10.0%	
G SUB TOTAL (Lines A, B, D through F)						\$7,607,000
H MISCELLANEOUS ROADWAY ITEMS						
Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$456,420	1	\$456,000		\$456,000
2. Other Excavation and Embankment Construction (3% of						
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$228,210	1	\$228,000		\$228,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,901,750	1	\$1,902,000		\$1,902,000
I SUB TOTAL (Lines G through H)						\$10,193,000
J FERRY TERMINAL					+	
1. Passenger Shelter & Ticket Booth	SQUARE METER	<u>\$0</u>	<u>0</u>	\$0	0.0%	\$0
2. Earthworks, Surfacing, Paving	SQUARE METER	<u>\$0</u>	<u>0</u>	\$0	0.0%	\$0
K SUB TOTAL (Lines A through F, H & J)						\$10,193,00
	LUMD CUM	\$1,010,200	1	\$1,010,000		
L MOBILIZATION (10% of Line K)	LUMP SUM	\$1,019,300	1	\$1,019,000	+	\$1,019,000
M Ferry System Acquisition Cost	LUMP SUM	<u>\$0</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)		<u> </u>			<u> </u>	\$11,212,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$1,681,800	1	\$1,682,000		\$1,682,000
					+	
P MITIGATION (2% of Line N)	LUMP SUM	\$224,240	1	\$224,000		\$224,000
F WITTGATTON (2% OF LINE N)			+	0007.000	1	\$897,000
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$896,960	1	\$897,000		<u> </u>
Q ENGINEERING/ADMINISTRATION (8% of Line N)				, i		
· · · · · · · · · · · · · · · · · · ·	LUMP SUM LUMP SUM	\$896,960 \$1,233,320 \$0	1	\$1,233,000		\$1,233,000

GRAVINA ACCESS PROJECT	OPTION	F1 -	- Airport Acces	5S		
		LOW LEVEL	WEST - HIGH	LEVEL EAST		
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Width Clearing & Grubbing (m) - Wc			Roadway (m)	=		ruge
Unit Weight Asphalt (Megagram/m) - Wa	= <u>4.39</u>	<u>509+961</u>	<u>511+421</u>	1460		
Unit Weight Aggregate Base Course (Megagram/m) - Wb Unit Weight Gravel Borrow (Megagram/m) - Ws	= <u>4.75</u> = 10.30	512+260 514+174	513+042 515+807	782 1633		
Length Culvert Crossings (m) - Lc	= 40	11+400	<u>15+023</u>	3623		
Width Creek Crossing Bridge (m) - Wbr	= 12	10+000	11+800	1800		
Width of Right of Way (m) - Wr Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= <u>50</u> = <u>15.0%</u>		ing Bridges (m) = ad - Bridges (m) = # Bridges = 2	= <u>70</u> = 9228		
		# Culv	#Tunnels = (
		#Bridge Cr	eek Crossings = 2			TOTAL
A EARTHWORK	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COST
1. Clearing and Grubbing	HECTARES	\$11,000	32.3	\$355,000	5.0%	\$373,000
2. Common Excavation	CUBIC METER	\$9	<u>0</u>	\$0	10.0%	\$0
3. Rock Excavation	CUBIC METER	\$13	<u>564000</u>	\$7,332,000	10.0%	\$8,065,000
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING	MECACRAM	645	A0511	g1 032 000	2.50/	¢1 0/0 000
Asphalt Concrete Pavement Aggregate Base Course	MEGAGRAM MEGAGRAM	\$45 \$24	40511 43833	\$1,823,000 \$1,052,000	2.5% 5.0%	\$1,869,000 \$1,105,000
Aggregate Base Course Gravel Borrow	MEGAGRAM	\$12	232000	\$2,784,000	10.0%	\$3,062,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	2431	\$486,200	1.0%	\$491,000
C STRUCTURES						
1. Bridges (See above for number)	CONTRACTOR	00.15	6 - 1 - 1	0.00	10.00:	0.00 000 000
a. Superstructure. b. Substructure	SQUARE METER	\$2,153	26470	\$56,984,000	10.0%	\$62,682,000
i. Deep Water	LUMP SUM	\$16,645,872	1	\$16,646,000	25.0%	\$20,808,000
ii. Shallow Water	SQUARE METER	\$1,615	6884	\$11,117,000	25.0%	\$13,896,000
iii. Over Land	SQUARE METER	\$1,076	14170	\$15,246,000	25.0%	\$19,058,000
Moveable Bridge Region Parking Garage	SQUARE METER LUMP SUM	\$0 \$7,000,000	0	\$0 \$0	0.0%	\$0 \$0
	LUMI SUM	37,000,000	<u>v</u>	30	0.070	30
D DRAINAGE 1. Culvert Crossings (See above for number)	METER	\$500	0	\$0	15.0%	\$0
Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	840	\$1,357,000	0.0%	\$1,357,000
3. Other Drainage						
a. Development Access b. Airport Access	METER METER	\$100 \$100	9228	\$0 \$923,000	15.0% 15.0%	\$0 \$1,061,000
1			7226			
E TRAFFIC SERVICES	LUMP SUM	\$250,000	1	\$250,000	0.0%	\$250,000
F MISCELLANEOUS ROADS 1. Connection to Airport	LUMP SUM	\$181,500	0	80	10.0%	\$0
2. Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)		J.2.2,000				\$17,633,000
						317,033,000
H MISCELLANEOUS ROADWAY ITEMS 1. Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$1,057,980	1	\$1,058,000		\$1,058,000
Other Excavation and Embankment Construction (3% of		22,000	-	92,020,000		22,000,000
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$528,990	<u>1</u>	\$529,000		\$529,000
3. Miscellanceous Construction Items (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections,						
SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control devices, lighting/load centers, etc.)	LUMP SUM	\$4,408,250	1	\$4,408,000		\$4,408,000
	ECMI SCM	34,400,230	<u> </u>	34,400,000		
I SUB TOTAL (Lines G through H)						\$23,628,000
J FERRY TERMINAL	COLLADE METER	61 100		60	0.00/	60
Passenger Shelter & Ticket Booth Earthworks, Surfacing, Paving	SQUARE METER SQUARE METER	\$1,100 \$65	0	\$0 \$0	0.0%	\$0 \$0
	SQUARE METER	903	<u>v</u>	30	0.070	
K SUB TOTAL (Lines A through F, H & J)						\$140,072,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$14,007,200	1	\$14,007,000		\$14,007,000
M Ferry System Acquisition Cost	LUMP SUM	<u>\$21,560,000</u>	0	\$0	0.0%	\$0
N SUB TOTAL (Lines K through M)						\$154,079,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$23,111,850	1	\$23,112,000		\$23,112,000
P MITIGATION (2% of Line N)	LUMP SUM	\$3,081,580	1	\$3,082,000		\$3,082,000
· · · · · · · · · · · · · · · · · · ·						
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$12,326,320	1	\$12,326,000		\$12,326,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$16,948,690	1	\$16,949,000		\$16,949,000
S RIGHT OF WAY	LUMP SUM	<u>\$565,031</u>	1	\$565,000		\$565,000

GRAVINA ACCESS PROJECT	OPTION :	F1	- Development	Access		
		LOW LEVEL	WEST - HIGH	LEVEL EAST		
	7/29/2003 7:36					Page
Width Clearing & Grubbing (m) - Wc			Roadway (m) =	:		1 age
Unit Weight Asphalt (Megagram/m) - Wa	= 4.39	<u>15+023</u>	<u>18+557</u>	3534		
Unit Weight Aggregate Base Course (Megagram/m) - Wb	= 4.75	0+000	0+000	0		
Unit Weight Gravel Borrow (Megagram/m) - Ws Length Culvert Crossings (m) - Lc	= <u>10.30</u> = 40	0+000 0+000	0+000 0+000	0		
Width Creek Crossing Bridge (m) - Wbr	= 12	0+000	0+000	0		
Width of Right of Way (m) - Wr	= 50		Bridges (m) =	<u>55</u>		
Contingency Line O (%) - Co CONCEPT COST ESTIMATE	= 15.0%	Length Roa	# Bridges (m) =			
		# Culy	#Tunnels = 0 rert Crossings = 9			
			eek Crossings = 3			
						TOTAL
A EARTHWORK	<u>UNITS</u>	UNIT COST	QUANTITY	COST	CONTINGENCY	ITEM COS
A EARTHWORK 1. Clearing and Grubbing	HECTARES	\$11,000	12.2	\$134,000	5.0%	\$141,000
2. Common Excavation	CUBIC METER	\$9	60000	\$540,000	10.0%	\$594,000
3. Rock Excavation	CUBIC METER	\$13	0	\$0	10.0%	\$0
4. Borrow	CUBIC METER	\$12	0	\$0	10.0%	\$0
B SURFACING / PAVING						
1. Asphalt Concrete Pavement	MEGAGRAM	\$45	15273	\$687,000	2.5%	\$704,000
2. Aggregate Base Course	MEGAGRAM	\$24	16526	\$397,000	5.0%	\$417,000
3. Gravel Borrow	MEGAGRAM	\$12	48000	\$576,000	10.0%	\$634,000
4. Asphalt Cement (PG-52-28) (6% of Asphalt Conc. Pavmt)	MEGAGRAM	\$200	917	\$183,400	1.0%	\$185,000
C STRUCTURES						
1. Bridges (See above for number)						
a. Superstructure.	SQUARE METER	<u>\$0</u>	0	\$0	10.0%	\$0
b. Substructure	LUMP SUM	614 700 000	0	\$0	25.0%	\$0
i. Deep Water ii. Shallow Water	SQUARE METER	\$14,700,000 \$1,615	0	\$0	25.0%	\$0 \$0
iii. Over Land	SQUARE METER	\$1,076	0	\$0	25.0%	\$0
2. Moveable Bridge	SQUARE METER	\$0	0	\$0	0.0%	\$0
3. Parking Garage	LUMP SUM	\$7,000,000	0	\$0	0.0%	\$0
D DRAINAGE						
Culvert Crossings (See above for number)	METER	\$500	360	\$180,000	15.0%	\$207,000
2. Bridges needed for creek crossings (See above for number)	SQUARE METER	\$1,615	660	\$1,066,000	0.0%	\$1,066,000
3. Other Drainage						
a. Development Access	METER	\$100	3479	\$348,000	15.0%	\$400,000
b. Airport Access	METER	\$100	0	\$0	15.0%	\$0
E TRAFFIC SERVICES	LUMP SUM	\$250,000	0	\$0	0.0%	\$0
F MISCELLANEOUS ROADS						
1. Connection to Airport	LUMP SUM	\$181,500	<u>0</u>	\$0	10.0%	\$0
Connection to Ketchikan	LUMP SUM	\$121,000	0	\$0	10.0%	\$0
G SUB TOTAL (Lines A, B, D through F)						\$4,348,000
H MISCELLANEOUS ROADWAY ITEMS						
Removal Items (6% of Line G; Items include pavement,						
culvert pipes, sidewalks, curb & gutter, etc.)	LUMP SUM	\$260,880	1	\$261,000		\$261,000
2. Other Excavation and Embankment Construction (3% of						-
Line G; Items include muck excavation, minor structure						
excavation and backfill, etc.)	LUMP SUM	\$130,440	1	\$130,000		\$130,000
, ,	Econ Scot	3100,110	-	3120,000		\$100,000
3. <u>Miscellanceous Construction Items</u> (25% of Line G; Items						
include w-beam guardrail, guardrail/bridgerail connections, SRT/CRT end sections, sidewalk, curb&gutter, seeding, topsoil,						
geotextiles, riprap, erosion and pollution control/administration,						
construction surveying, traffic maintenance, traffic control						
devices, lighting/load centers, etc.)	LUMP SUM	\$1,087,000	<u>1</u>	\$1,087,000		\$1,087,000
I SUB TOTAL (Lines G through H)						\$5,826,000
						95,020,000
J FERRY TERMINAL	COLLABE METER	00	0	60	0.00/	Ø0
Passenger Shelter & Ticket Booth Earthworks, Surfacing, Paving	SQUARE METER SQUARE METER	\$0 \$0	0	\$0 \$0	0.0%	\$0 \$0
	JQU.IKE METER	90	<u> </u>	30	0.0 / 0	
K SUB TOTAL (Lines A through F, H & J)			+			\$5,826,000
L MOBILIZATION (10% of Line K)	LUMP SUM	\$582,600	1	\$583,000		\$583,000
M Ferry System Acquisition Cost	LUMP SUM	\$0	0	\$0	0.0%	\$0
	Zemi sem	90	<u> </u>	30	0.0 / 0	
N SUB TOTAL (Lines K through M)			+ +			\$6,409,000
O CONTINGENCIES (15% of Lines N)	LUMP SUM	\$961,350	1	\$961,000		\$961,000
P MITIGATION (2% of Line N)	LUMP SUM	\$128,180	1	\$128,000		\$128,000
, , , , , , , , , , , , , , , , , , ,				, in the second		
Q ENGINEERING/ADMINISTRATION (8% of Line N)	LUMP SUM	\$512,720	1	\$513,000		\$513,000
R CONSTRUCTION MANAGEMENT (11% of Line N)	LUMP SUM	\$704,990	1	\$705,000		\$705,000
S RIGHT OF WAY	LUMP SUM	\$0	1	\$0		\$0
		40		40	1	Ψ.0

GRAVINA ACCESS PROJECT

OPTION :	NB	C3(a)	C3(b)	C4	D1	F3	G2	G3	G4	F1
7/29/2003 7:36	NO BUILD	200' BRIDGE CLEARANCE - AIRPORT	120' BRIDGE CLEARANCE - AIRPORT	200' BRIDGE CLEARANCE - AIRPORT	120' BRIDGE CLEARANCE - AIRPORT	200' WEST - 60' EAST BRIDGE CLEARANCE -	FERRY - PENNINSULA POINT	FERRY - DOWNTOWN	FERRY - EXPAND EXISTING	200' BRIDG CLEARANCI
Begin Construction - Y = 2003	2 Ferries	AREA	AREA	AREA	AREA	PENNOCK IS.	4 Ferries	4 Forrios	4 Ferries	PENNOCK ISL
Life Span (years) - n = 20	1 Route							4 Ferries 2 Routes	2 Routes	
Years to Construct - yc = 3	0	2	3	5	6	8	9	10	11	
Initial Cost, Distributed over the #										
of Years to Construct (Y/N) N										
Eff. Real Discount Rate/Yr - i = 4.2%										
Roadway Repaving* (\$/m) = \$173 Repaving* (\$/m ²) = \$15										
CASH FLOW (Constant 2003 Dollars):		 								
LIABILITIES:		 								
nitial Cost of Constr. & Project Development:	<u>0</u>	\$188,000,000	\$157,000,000	\$184,000,000	\$122,000,000	\$196,000,000	\$49,000,000	\$57,000,000	\$47,000,000	\$219,000,00
Year 2003 to Year 2005 (Beginning of Year)	£4 070 000	6400.000	6400.000	*400.000	***	***	** ***	** ***	** ***	***
Annual Operating & Maintenance Costs: Year 2006 to 2025 (End of Year)	\$1,070,000	\$100,000	\$100,000	\$100,000	\$80,000	\$80,000	\$3,336,000	\$3,336,000	\$3,336,000	\$80,000
Periodic Maintenance Costs:										
Repaving:	\$117,525	\$1,057,895	\$1,105,816	\$1,036,443	\$960,669	\$559,136	\$1,287,439	\$1,360,445	\$1,082,736	\$645,161
Frequency (Years):	20	20	20	20	20	20	20	20	20	20
Length Project (m):	0	6115	6392	5991	5553	3232	5768	6190	5082	3232
Parking Lot (m ²):	<u>7835</u>	0	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	19305	19305	13570	5735
Mechanical/Electrical Equipment Replacement:	\$5,244,000	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u> <u>1</u>	\$10,488,000	\$10,488,000	<u>\$10,488,000</u>	<u>\$0</u> <u>1</u>
Frequency (Years):	<u>25</u>	1	<u>1</u>	<u>1</u>	<u>1</u>	1	<u>25</u>	<u>25</u>	<u>25</u>	<u>1</u>
Terminal Maintenance:	\$3,495,000	\$0	<u>\$0</u>	<u>\$0</u>	\$0	<u>\$0</u>	\$6,990,000	\$6,990,000	\$6,990,000	\$0
Frequency (Years):	10	10	10	10	10	10	10	10	10	10
				-	-	-				
Existing Ferry Replacment:	\$3,825,000	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	\$3,825,000	\$3,825,000	\$3,825,000	<u>\$0</u>
Year Ferry 2 Replaced:	<u>10</u>	10	10	10	10	10	10	10	10	10
5 BI	60.005.000	\$0	\$0	\$0	\$0	\$0	60 005 000	60 005 000	60 005 000	\$0
Ferry Replacement(1): Frequency (Years):	\$3,825,000 50	50	50 50	\$0 50	\$0 50	50 50	\$3,825,000 50	\$3,825,000 50	\$3,825,000 50	\$0 50
EQUITY:	<u>30</u>	30	30	30	30	30	30	30	30	30
Remaining Service Life Value**:										
Buiden(a).	\$0	\$79.638.533	\$65.507.200	\$71.134.067	\$43,458,800	\$73.656.733	\$0	\$0	\$0	\$73,656,7
Paving Unit Costs Include: Construction Costs	\$0	\$108,598,000	\$89,328,000	\$97,001,000	\$59,262,000	\$100,441,000	\$0	\$0	\$0	\$100,441,0
10% MODILIZATION Life of Bridge(s):	<u>75</u>	75	75	75	75	75	75	75	75	75
15% Contingencies 8% Engineering/Admin.	_			-		-		-		
Parking Garage(s):	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
- Construction Cost.	<u>\$0</u> <u>75</u>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
**Straight Line Depreciation Life of Parking Garage(s):	<u>75</u>	75	75	75	75	75	75	75	75	75
Method. Paving/Repaving:	\$0	**	**	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mechanical/Electrical Equipment/Replacement:	\$1,048,800	\$0 \$0	\$0 \$0	\$0	\$0	\$0 \$0	\$2,097,600	\$2,097,600	\$2,097,600	\$0 \$0
Terminal Maintenance:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
			• •		•		•	, .		•
Ferry 1/Replacement Salvage:	\$2,295,000	\$0	\$0	\$0	\$0	\$0	\$2,295,000	\$2,295,000	\$2,295,000	\$0
Ferry 2/Replacement Salvage:	\$3,060,000	\$0	\$0	\$0	\$0	\$0	\$3,060,000	\$3,060,000	\$3,060,000	\$0
Ferry 3-4/Replacement Salvage:	\$4,590,000	\$0	\$0	\$0	\$0	\$0	\$4,590,000	\$4,590,000	\$4,590,000	\$0
Life of Ferry(s):	<u>50</u>	50	50	50	50	50	50	50	50	50
IFE CYCLE COST (2003 Dollars):										
						****	*** ***			
nitial Cost of Constr. & Project Development:	\$0 \$42,628,540	\$188,000,000	\$157,000,000	\$184,000,000	\$122,000,000	\$196,000,000	\$49,000,000	\$57,000,000 \$30,373,654	\$47,000,000	
nitial Cost of Constr. & Project Development: Annual Operating & Maintenance Costs:	\$12,628,519	\$1,180,235	\$1,180,235	\$1,180,235	\$944,188	\$944,188	\$39,372,654	\$39,372,654	\$39,372,654	\$944,18
nitial Cost of Constr. & Project Development: Annual Operating & Maintenance Costs: Periodic Maintenance Costs: Repaying:			\$1,180,235 \$0	\$1,180,235 \$0		\$944,188 \$0				\$944,18 \$0
nitial Cost of Constr. & Project Development: knnual Operating & Maintenance Costs: Periodic Maintenance Costs: Repaving: Mechanical/Electrical Equipment Replacement:	\$12,628,519 \$0 \$0	\$1,180,235 \$0 \$0	\$1,180,235 \$0 \$0	\$1,180,235 \$0 \$0	\$944,188 \$0 \$0	\$944,188 \$0 \$0	\$39,372,654 \$0 \$0	\$39,372,654 \$0 \$0	\$39,372,654 \$0 \$0	\$944,18 \$0 \$0
nitial Cost of Constr. & Project Development: \text{knnual Operating & Maintenance Costs:} \text{Periodic Maintenance Costs:} \text{Repaving:} \text{Mechanical/Electrical Equipment Replacement:} \text{Terminal Maintenance:} \text{Ferry 1 Replacement (initial replacment not included):}	\$12,628,519 \$0 \$0 \$2,047,231 \$0	\$1,180,235 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: Innual Operating & Maintenance Costs: Repaving: Periodic Maintenance Costs: Repaving: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement	\$12,628,519 \$0 \$0 \$0 \$2,047,231 \$0 \$2,240,532	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: nnual Operating & Maintenance Costs: Periodic Maintenance Costs: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacment not included): Ferry 2 Replacement: Ferry 3 Replacement: Ferry 3 Replacement:	\$12,628,519 \$0 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: \[\text{Annual Operating & Maintenance Costs:} \] \[\text{Periodic Maintenance Costs:} \] \[\text{Repairing:} \] \[\text{Mechanical/Electrical Equipment Replacement:} \] \[\text{Terminal Maintenance:} \] \[\text{Ferry 1 Replacement (initial replacement not included):} \] \[\text{Ferry 2 Replacement:} \] \[\text{Ferry 3-4 Replacement:} \] \[\text{TOTAL LIFE CYCLE COST OF LIABILITIES:} \]	\$12,628,519 \$0 \$0 \$0 \$2,047,231 \$0 \$2,240,532	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: nnual Operating & Maintenance Costs: Periodic Maintenance Costs: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES:	\$12,628,519 \$0 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$944,186 \$0 \$0 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: \[\text{Annual Operating & Maintenance Costs:} \] \[\text{Periodic Maintenance Costs:} \] \[\text{Repaving:} \text{Mechanical/Electrical Equipment Replacement:} \] \[\text{Terminal Maintenance:} \] \[\text{Terminal Maintenance:} \] \[\text{Ferry 1 Replacement (initial replacement not included):} \] \[\text{Ferry 2 Replacement:} \] \[\text{Ferry 2 Replacement:} \] \[\text{Ferry 3 Replacement:} \] \[\text{Terry 1 TOTAL LIFE CYCLE COST OF LIABILITIES:} \] \[\text{EQUITY:} \] \[\text{Remaining Service Life Value**:} \]	\$12,628,519 \$0 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0	\$944,18 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944,
nitial Cost of Constr. & Project Development: Innual Operating & Maintenance Costs: Periodic Maintenance Costs: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: EQUITY: termaining Service Life Value**: Bridge(s):	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0 \$16,916,282	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$28,592,684	\$39,372,654 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$94,707,647	\$39,372,654 \$0 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$102,707,647	\$39,372,654 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$92,707,647	\$944,18 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944,
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itital Cost of Constr. & Project Development: nnual Operating & Maintenance Costs: erlodic Maintenance Costs: Repaving: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: Ferry 3-4 Replacement: COTAL LIFE CYCLE COST OF LIABILITIES: Equipment Service Life Value**: Bridge(s): Parking Garage(s): Parking Garage(s): Mechanical/Electrical Equipment/Replacement:	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$407,132	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$1 \$0 \$185,180,235	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$196,944,188 \$28,592,684 \$0 \$0	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$94,707,647	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$102,707,647	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$92,707,647	\$944,18 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: Annual Operating & Maintenance Costs: Periodic Maintenance Costs: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: EQUITY: Remaining Service Life Value**: Bridge(s): Paving/Repaving; Mechanical/Electrical Equipment/Replacement: Terminal Maintenance:	\$12,628,519 \$0 \$2,047,231 \$0 \$2,240,532 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$196,944,188 \$28,592,684 \$0 \$0 \$0	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$94,707,647	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$102,707,647 \$0 \$0 \$0 \$14,264 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0 \$2,240,532 \$92,707,647 \$0 \$0 \$0 \$14,264 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944,1 \$28,592,6 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: nnual Operating & Maintenance Costs: Périodic Maintenance Costs: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: EQUITY: Remaining Service Life Value**: Bridge(s): Parking Garage(s): Paving/Repaving: Mechanical/Electrical Equipment/Replacement: Terminal Maintenance: Ferry 1/Replacement Salvage:	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0 \$16,916,282 \$0 \$0 \$0 \$407,132 \$0 \$890,892	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$196,944,188 \$28,592,684 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0,94,462 \$0 \$2,240,532 \$0 \$94,707,647 \$0 \$0 \$0 \$894,264 \$0 \$890,892	\$39,372,654 \$0 \$0,094,462 \$0,094,462 \$0,02,240,532 \$102,707,647 \$0 \$0 \$0 \$14,264 \$0 \$890,892	\$39,372,654 \$0 \$4,994,462 \$0 \$2,240,532 \$0 \$92,707,647 \$0 \$0 \$814,264 \$0 \$890,892	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944,1 \$28,592,6 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: Annual Operating & Maintenance Costs: Repaving: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: COUITY: Remaining Service Life Value**: Bridge(s): Parking Garage(s): Parking Garage(s): Parking Garage(s): Parking Garage(s): Ferry 1/Replacement: Terminal Maintenance: Ferry 1/Replacement Salvage: Ferry 2/Replacement Salvage:	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$407,132 \$0 \$90,892 \$1,187,886	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$196,944,188 \$28,592,684 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$94,707,647 \$0 \$0 \$0 \$1,187,856	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$102,707,647 \$0 \$0 \$0 \$14,264 \$0 \$1,187,856	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$92,707,647 \$0 \$0 \$1,187,856	\$944,181 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944,1 \$28,592,6 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: nnual Operating & Maintenance Costs: Périodic Maintenance Costs: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: EQUITY: Remaining Service Life Value**: Bridge(s): Parking Garage(s): Paving/Repaving: Mechanical/Electrical Equipment/Replacement: Terminal Maintenance: Ferry 1/Replacement Salvage: Ferry 3-4/Replacement Salvage: Ferry 3-4/Replacement Salvage: Ferry 3-4/Replacement Salvage:	\$12,628,519 \$0 \$2,047,231 \$0 \$2,240,632 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$407,132 \$0 \$99,892 \$1,187,856	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$50 \$196,944,188 \$28,592,684 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$0 \$4,094,462 \$0 \$2,2240,532 \$0 \$94,707,647 \$0 \$0 \$0 \$814,264 \$0 \$890,892 \$1,187,856	\$39,372,654 \$0 \$0,004,462 \$0,004,462 \$0,005,005,005 \$102,707,647 \$0 \$0 \$0,005 \$11,264 \$0,005 \$11,781,784	\$39,372,654 \$0 \$0 \$4,094,462 \$0,000 \$2,240,532 \$0 \$92,707,647 \$0 \$0 \$814,264 \$0 \$890,892 \$11,187,855 \$17,784,784	\$944,18i \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944,1 \$28,592,6 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: nnual Operating & Maintenance Costs: Repaving: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: QUITY: temaining Service Life Value**: Bridge(s): Parking Garage(s): Parking Garage(s): Paving/Repaving: Mechanical/Electrical Equipment/Replacement: Ferry 1/Replacement Salvage: Ferry 2/Replacement Salvage: Ferry 3-4/Replacement Salvage: TOTAL LIFE CYCLE COST OF EQUITY:	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$0 \$0,00 \$2,407,132 \$0 \$0 \$0,00 \$407,132 \$0 \$0,900,892 \$1,187,856 \$1,781,784 \$4,267,665	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$196,944,188 \$28,592,684 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$94,707,647 \$0 \$0 \$0 \$1,187,856	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$102,707,647 \$0 \$0 \$0 \$14,264 \$0 \$1,187,856	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$92,707,647 \$0 \$0 \$1,187,856	\$944,18 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$28,592,6 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
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nitial Cost of Constr. & Project Development: nnual Operating & Maintenance Costs: Repaving: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: QUITY: temaining Service Life Value**: Bridge(s): Parking Garage(s): Parking Garage(s): Paving/Repaving: Mechanical/Electrical Equipment/Replacement: Ferry 1/Replacement Salvage: Ferry 2/Replacement Salvage: Ferry 3-4/Replacement Salvage: TOTAL LIFE CYCLE COST OF EQUITY:	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,532 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$0 \$0,00 \$2,407,132 \$0 \$0 \$0,00 \$407,132 \$0 \$0,900,892 \$1,187,856 \$1,781,784 \$4,267,665	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$50 \$196,944,188 \$28,592,684 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$94,707,647 \$0 \$0 \$0 \$1,124,264 \$0 \$1,187,356 \$1,181,784 \$4,674,797	\$39,372,654 \$0 \$4,094,462 \$0 \$2,240,532 \$0 \$102,707,647 \$0 \$0 \$0 \$14,264 \$0 \$1,187,856 \$1,187,856 \$1,781,784	\$39,372,654 \$0 \$0 \$4,094,462 \$0,000 \$2,240,532 \$0 \$92,707,647 \$0 \$0 \$814,264 \$0 \$890,892 \$11,187,855 \$17,784,784	\$944,18 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944, \$28,592,6 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
nitial Cost of Constr. & Project Development: unual Operating & Maintenance Costs: erfodic Maintenance Costs: Mechanical/Electrical Equipment Replacement: Terminal Maintenance: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement: Ferry 3-4 Replacement: TOTAL LIFE CYCLE COST OF LIABILITIES: EQUITY: Emaining Service Life Value**: Parking Garage(s): Parking Garage(s): Paving/Repaving: Mechanical/Electrical Equipment/Replacement: Terminal Maintenance: Ferry 1/Replacement Salvage: Ferry 2/Replacement Salvage: Ferry 3-4/Replacement Salvage: Forry 3-4/Replacement Salvage: TOTAL LIFE CYCLE COST OF EQUITY: TOTAL LIFE CYCLE COST OF FOUNTY: TOTAL LIFE CYCLE COST OF COUNTY: TOTAL LIFE CYCLE COST:	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,632 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$0 \$0 \$3,0407,132 \$0 \$890,892 \$1,187,856 \$1,781,784,784,784,784,784,784,784,784,784,784	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$196,944,188 \$28,592,684 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$4,094,462 \$4,094,462 \$5,2240,532 \$94,707,647 \$0 \$0 \$0 \$0 \$814,264 \$0 \$890,892 \$1,187,856 \$1,781,784 \$4,674,797 (\$90,032,851)	\$39,372,654 \$0 \$4,094,462 \$0,0 \$2,240,532 \$0 \$102,707,647 \$0 \$0 \$0 \$14,264 \$0 \$890,892 \$1,187,856 \$1,781,784 \$4,674,797 \$980,032,851	\$39,372,654 \$0 \$4,094,462 \$0,0 \$2,240,532 \$0 \$92,707,647 \$0 \$0 \$0 \$0 \$14,264 \$0 \$890,892 \$1,187,856 \$1,781,784 \$4,674,797 (\$88,032,851)	\$944,18 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$219,944, \$28,592,6 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
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nitial Cost of Constr. & Project Development: Annual Operating & Maintenance Costs: Periodic Maintenance Costs: Periodic Maintenance Costs: Ferry 1 Replacement (initial replacement not included): Ferry 2 Replacement TOTAL LIFE CYCLE COST OF LIABILITIES: COUITY: Remaining Service Life Value**: Bridge(s): Parking Garage(s): Parking Garage(s): Parking Maintenance: Ferry 1/Replacement Salvage: Ferry 2/Replacement Salvage: Ferry 2/Replacement Salvage: Ferry 3-4/Replacement Salvage: Ferry 3-4/Replacement Salvage: TOTAL LIFE CYCLE COST OF EQUITY: TOTAL LIFE CYCLE COST OF EQUITY	\$12,628,519 \$0 \$0 \$2,047,231 \$0 \$2,240,632 \$0 \$16,916,282 \$0 \$0 \$0 \$0 \$0 \$0 \$3,0407,132 \$0 \$890,892 \$1,187,856 \$1,781,784,784,784,784,784,784,784,784,784,784	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$189,180,235 \$30,914,748 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$158,180,235 \$25,429,130 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,180,235 \$0 \$0 \$0 \$0 \$0 \$0 \$185,180,235 \$27,613,414 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$122,944,188 \$16,870,199 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$944,188 \$0 \$0 \$0 \$0 \$0 \$0 \$196,944,188 \$28,592,684 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$39,372,654 \$0 \$4,094,462 \$4,094,462 \$5,2240,532 \$94,707,647 \$0 \$0 \$0 \$0 \$814,264 \$0 \$890,892 \$1,187,856 \$1,781,784 \$4,674,797 (\$90,032,851)	\$39,372,654 \$0 \$4,094,462 \$0,0 \$2,240,532 \$0 \$102,707,647 \$0 \$0 \$0 \$14,264 \$0 \$890,892 \$1,187,856 \$1,781,784 \$4,674,797 \$980,032,851	\$39,372,654 \$0 \$4,094,462 \$0,0 \$2,240,532 \$0 \$92,707,647 \$0 \$0 \$0 \$0 \$14,264 \$0 \$890,892 \$1,187,856 \$1,781,784 \$4,674,797 (\$88,032,851)	\$0 \$0 \$0 \$0 \$0 \$219,944,1 \$28,592,6 \$0 \$0 \$0 \$0 \$0

GRAVINA ACCESS PROJECT

Future Airport Development Parking Garage Construction Estimate

Stall		Stall	# of Stalls	TotalStall Area	% Coverage	Total Floor Area	St	ructure	Total Cost
Length	Width	Area					Ur	nit Cost	
(ft)	(ft)	(sq. ft.)		(sq. ft.)		(sq. ft.)			
18	8.5	153	300	45900	80%	103275	\$	85.00	\$ 8,778,375.00

Check by unit stall cost:

Number of Parking Stalls	Unit Cost per Parking Stall	Total Estimated Cost
300	\$ 25,000	\$ 7,500,000

Option: C3(a)-200

Total Foundation Cost/sf	1735	unit cost \$2,153	Total area 25331	\$54,532,122.95
Superstructure Cost/sf Total cost/sf Total cost/sq. meter		\$13,629,820 \$1,615	1 7096	\$13,629,820.00 \$11,459,394.00
Total area sq. meter Total Cost of Bridge		\$1,076	12826	\$13,800,883.60
				\$93,422,220.55
Option: C3(b)-120	1297	unit cost	Total ansa	
Total Foundation Cost/sf Superstructure Cost/sf	1297	\$2,153	Total area 18936	\$40,765,512.09
Total cost/sf		\$16,410,000	1	\$16,410,000.00
Total cost/sq. meter		\$1,615	7981	\$12,889,126.37
Total area sq. meter Total Cost of Bridge		\$1,076	5845	\$6,289,053.00
				\$76,353,691.46
Option: C4(a)-200				
Total	1520	unit cost	Total area	•
Foundation Cost/sf		\$2,153	22192	\$47,774,539.99
Superstructure Cost/sf Total cost/sf		\$13,629,820	1	\$13,629,820.00
Total cost/sq. meter		\$1,615	6935	\$13,029,020.00
Total area sq. meter		\$1,076	9971	\$10,728,384.54
Total Cost of Bridge		4-,		, ,
•				\$83,332,462.04
Option: D1-120				
Total	980	unit cost	Total area	
Foundation Cost/sf Superstructure Cost/sf		\$2,153	14308	\$30,802,006.05
Total cost/sf		\$10,260,000	1	\$10,260,000.00
Total cost/sq. meter		\$1,615	0	\$0.00
Total area sq. meter Total Cost of Bridge		\$1,076	9334	\$10,043,594.04
				\$51,105,600.08
Option: F1-200				
Total	1813	unit cost	Total area	4=4 4=4 1 1 1
Foundation Cost/sf		\$2,153	26470	\$56,983,711.19
Superstructure Cost/sf Total cost/sf		\$16,645,872	1	\$16,645,872.00
Total cost/sq. meter		\$1,615	6884	\$10,645,872.00
Total area sq. meter		\$1,076	14170	\$15,246,427.62
Total Cost of Bridge		. , -		. , ., .–
-				\$99,993,029.98

Option: F3-200

Total .	1888	unit cost	Total area	
Foundation Cost/sf		\$2,153	27565	\$59,341,007.57
Superstructure Cost/sf				
Total cost/sf		\$18,514,656	1	\$18,514,656.00
Total cost/sq. meter		\$1,615	2355	\$3,804,123.46
Total area sq. meter		\$1,076	15742	\$16,938,725.99
Total Cost of Bridge				
				\$98,598,513.02